THE

PEDAGOGICAL SEMINARY.

Founded and Edited by G. STANLEY HALL.

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EDITORIAL.

The present number, which begins the fifth volume, marks an important new departure in the PEDAGOGICAL SEMINARY. Hitherto three numbers have constituted a volume; henceforth it becomes a quarterly, and is to be issued regularly instead of irregularly as before.

In the first article (56 pages) Mr. Street seeks to describe certain factors of Moral Education as viewed from the children's standpoint, and treats self-denial, conscience cases, teachers' influence, religion, influence of playmates, parents, games, reading, etc. A large collection of proverbs actually in vogue are given, with the suggestion that they should form a large part of the copy in school writing books. The article throws new light upon many of the most important problems of moral and religious life and culture.

The next article, by Messrs. Lindley and Partridge, on Some Mental Automatisms (20 pages), in a sense supplements an article by Mr. Lindley on Some Motor Phenomena of Mental Effort, in the *American Journal of Psychology*, July, 1896. The groups studied here are Avoiding, as stepping on cracks in the sidewalk or certain carpet figures; Counting, as trees, jets of gas, stairs, ticks of clock, etc.; Grouping, as into squares, diamonds, circles, etc., and Bisecting.

The explanation of these interesting and very prevalent phenomena is original and suggestive. So far as known this is the first attempt to study them in normal people.

In the third and longest article (68 pages) Mr. Lancaster undertakes a comprehensive survey of the entire subject of Adolescence, its Psychology and Pedagogy. After a concise digest of previous literature upon the subject, he passes to the results of one of the most comprehensive of all the studies yet made here by the questionnaire method. Like most of the forty child-study articles already published here, and indeed more so, this abounds in statistics, and samples many typical cases. Some of the conclusions are quite new and at variance with current opinion and practice. On the whole, this article is one the most important and interesting yet printed in the SEMINARY.

Miss Mary Louch, of the faculty of Cheltenham (Eng.) Ladies' College, prints a digest of a longer, but as yet unpublished study of the Difference Between Children and Grown-up People, from the Child's Point of View.

Miss H. A. Marsh, of Detroit, describes her method of organizing conferences between parents and teachers, and the interesting results attained.

Dr. H. T. Lukens prints a brief sketch of the life and works of Dörpfeld. The latter are now published, 12 volumes, and Dr. Lukens, who knew the author, has here condensed the main conclusions of a brief course of lectures upon his system — which he has given during the past academic year at Clark, Bryn Mawr, and Haverford.

Many brief book notes, mostly by the editor, close the number, which, on the whole, is believed to be one of the best and most varied, as it certainly is one of the largest, of all that have appeared.

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TABLE OF MISPRONC

— = omissio
§ = a sound interm
wr, rw, $\frac{w}{r}$ = sounds interm

Children observed at the given ages mispronounced as follows:

	Initial Sounds Mispronounced.	No Age Given.	12 mo.	SECOND YEAR. 13 mo.	14 mo.	15 mo.	16 mo.	17 mo.	18 mo.	19 mo.	20 mo.	21 mo.	22 mo.	23 mo.	24 mo.
	K	—	t				t	t	t	d	t	t		t	t
	G	j	d			d			d	d	d	t, d		t, —, d	d
	Ch							sh	t						t§. k
	J	zh				dy, d			d	d	d			d	
	Th	thl	t				t, d		t			s, t	t, f, p	v	
	Dh	v			d	d			d		d	—		d	d, —, h, y
	F						h		w	—	p		p	w	p, h
	V	—						w	b						
	W	v					—	—	—	—					f
	Wh							h							w
	Y					—			—	—			—	—	d
	H					—		—							
L Series.	L	r				h	—		—		h	—		h	n
	Bl								b	b		b		b	b
	Fl					f	f		w		f		f		
	Gl								d				g		
	Kl								t	k	t		k		k
	Pl		p			p	p, pw		p			p	p		p
	Sl	hl						s	t						s
R Series.	R	l, h, v					—	zhy	w	y					y, $\frac{wr}{rw}$, w
	Br					b	b^{w}_{r}		b		b	b			b, b^{w}_{r}
	Dr	g, j, n	d		d	dl, dw	d		d						d
	Fr								w	f					f
	Gr	b								w				d, dr	dr
	Kr					k	k	k	w	k, t		k	kl, tr		k, kw
	Pr			p					p					p	p
	Skr														st
	Spr														pr
	Str														t, d. tr
	Tr		t						t		t	t			
	Thr	thl, fl, sh						f	t						
S Series.	S						w, h	d, ds	t, sh		w				§, h, ts
	Sh	f			§		s		t		s	h			s, §, —
	Sk								t						
	Sl	hl						s	t						
	Sm								m						m, hm
	Sn								n						
	Sp								p	p					p
	St	s		t		t			t	t		t	t		t
	Sw								w						

ED INITIAL SOUNDS.

ınd entirely.
oetween *s* and *sh*.
between *r* and rounded *w*.

THIRD YEAR.										FOURTH YEAR.								
27 mo.	28 mo.	29 mo.	30 mo.	31 mo.	32 mo.	33 mo.	34 mo.	35 mo.	36 mo.	37 mo.	38 mo.	39 mo.	40 mo.	41 mo.	42 mo.	43 mo.	44 mo.	45 mo.
t	....	....	t	....	....	....	.....	....	....	....	t	....	.....	....	....	....	....	....
d	d	....	d	....	d	....	.....	....	....	....	....	....	.....	....	....	....	....	....
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.....	.....	....	k	h	h	....	t, s, h, ts	....	....	....	....	s	.....	....	f	....	....	....
.....	d, –	d	—	....	....	....	dz. –	....	j	....	d	—	.....	....	....	....	....	....
.....	.....	....	p, h	h	....	....	.....	....	....	....	....	....	.....	....	....	....	....	th
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d	—	....	—	—	.....	....	—	....	....	....	....	....	—	....	....	....	....	....
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.....	f	....	h	h	.....	....	f	....	....	....	....	....	.....	....	....	....	....	....
.....	.....	....	.....	.....	.....	....	g	....	....	....	....	....	.....	....	....	....	....	....
.....	l	....	.....	k	yl	....	k	....	....	....	....	....	.....	....	....	....	....	....
p	.....	....	p	.....	.....	....	p	....	....	....	....	....	.....	....	....	....	....	....
s	.....	....	.....	h	.....	....	s	....	....	....	....	....	.....	....	....	....	....	....
.....	w	....	—	—	.....	....	w, wr	....	....	....	....	....	.....	....	wr	wr	....	w
.....	b	....	.....	.....	.....	....	b^w_r	....	....	....	....	....	b^w_r	....	....	....	....	....
.....	.....	....	.....	.....	.....	....	d^w_r	....	d, r	....	....	....	d^w_r	....	....	....	....	....
.....	.....	....	.....	.....	.....	....	f	....	....	....	....	....	.....	....	....	....	....	....
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k, ds	t, sh	....	h, –	h, ch	h, sh	....	.....	....	....	....	....	....	th	....	....	....	....	....
.....	.....	....	s	h	.....	....	s	....	....	....	....	....	.....	s	....	....	....	....
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f	t	....	t	k	....	....	t	....	....	....	....	....	.....	tw	....	....	....	....

A STUDY IN MORAL EDUCATION.

By J. R. STREET, Fellow in Clark University.

With the view of approaching this question from the side of introspection, and thereby discovering a psychological basis for the investigation of the laws that underlie the higher development of the moral nature, Syllabus No. 5, 1895–96, was issued by Dr. G. Stanley Hall.

The replies received are chiefly from Miss Williams, of the New Jersey State Normal, from the Farmington (Maine) Normal, and from Miss Mary Goddard, of Worcester, Mass. There are also a number of individual replies from various parts of the country. Thanks are due all these for the high character of the papers and for their kindness in answering.

It is regrettable that so few replies have been received from young men, there being but 23 in all. This prevents the possibility of making any satisfactory comparative study of the sexes. One valuable characteristic of the returns is that nearly all of them are from persons of 17–21 years of age, not yet old enough to have forgotten the forces that have combined to make them what they are, and still too youthful to have obscured them with the philosophy that the more extended experiences of life produce.

In presenting the results, as far as possible the boys and girls will be allowed to tell their own story, yet the necessity for brevity demands that these results be shown in tabular form. It is hoped, therefore, that the figures will present the quantitative results, and the condensations will be relied upon to present the qualitative.

The sections of the syllabus are quoted at the beginning of each division of the subject.

The replies to the first five sections were of such a general nature, that no particular advantage would be gained by reproducing them, therefore only the results culled therefrom are presented.

I. What punishments or rewards have you ever had that did you good or harm? State the case and its results.

Of the 183 persons reporting, 104 give instances of punishment, 66 speak of being benefited, and 38 as being injured by the punishment.

The punishments that did good, were:

Whipping 16. Withdrawal of privileges 11. Plain talks given privately 6. Scolding 4. Sent to a room alone 5. Made to apologize 3. Sent to bed 3. Mouth washed out with soap, salt and pepper 2. Withdrawal of favor 2. Standing on platform in school 2. Made to repeat an offence before the school 2. Kept in after school 1. Sent to bed supperless 1. Publicly rebuked 1. The form of a terrible whipping without the substance 1. Talked to 1. Simply forgiven 1.

Punishments that were injurious:

Whippings 8. Unmerited punishments 8. Public punishments 2. Sarcastic reproof 4. Impositions 4. Forced apology 3. Standing on school platform 2. Public reproof 1. Public scolding 1. Seated with opposite sex 1. Whipping for inability 1. Seated alone. Withdrawal of school privileges 1. Slapping on face 1. Sent to bed 1. Kept in after school 1.

Rewards were reported by 27. Of this number 11 spoke favorably, while 16 related instances of evil tendencies.

The strongest that can be said in favor of rewards is, that, in some instances, habits of industry and studiousness were established, while against this are opposed the facts, that they give a false motive and therefore fail in developing true student ideals; that they are a source of constant strife and bitterness of feeling among pupils and even among parents; and that their efforts generally are most unhygienic.

All that can be said in regard to punishment is, that, as far as possible, it should be retributive and not vindictive, as the latter but stirs up the child's evil nature and always fails as a corrective measure. As has been so admirably pointed out by Spencer, arbitrary punishments are but means the parent, or teacher employs to smooth his own ruffled feelings, a safety valve through which the over-pressure of angry passion is permitted to escape. *The child's disposition* should *be the determining factor*, and as far as possible the punishment should follow as a natural consequence (cause and effect) of the misdeed.

Self-Denial, Etc.

Sec. II. Think over cases of special self-denial, or self-control, or effort you have put forth to be and do good. Also your special lapses, and see if you can account for the determining element in each. Write as intimately and confidentially as you can of your besetting fault or even vices. What is good and bad for it?

Thirty-two cases of self-denial are reported. These can all be classed under the sections, "For others," "For self."

The numerical rubrics are: Gave up pleasure for others 10. Lenten denials 4. Sweetmeats 3. Gave up new clothes

in order to give the money to others 2. Stayed home from church for sake of a sick friend 2. A trip to the seashore for sister's sake 1. Remained at home to let mother go 1. Abstained from dancing for father's sake 1. Gave up a trip for the sake of helping another 1. Gave up a trip to Europe for the sake of an education 1. Gave up a concert for sister's sake 1. Gave up a sail for mother 1. Gave away to a poor girl a dress which I wanted 1. Gave up entertainments 1. Gave her only doll to a poor girl 1.

The determining element of the denials are altruistic 27. Sense of justice and duty 3. Egoistic 2.

There are but 6 clear cases of self-control, and these have their origin in the thought of the consequences (a) to others (b) to self. Sense of Honor, and Sense of Duty.

Some frank testimony was given concerning besetting faults—48 are mentioned in the following order: Temper 12. Selfishness 6. Pride 3. Conceit 3. Fretting and worrying 2. Oversensitive 2. Spiteful 2. Jealous 2. Procrastinating 2. Uncontrollable tongue 2. Laziness 2. Swearing 1. Forgetfulness 1. Deceitfulness 1. Lying 1. Longing for things I cannot have 1. Uncharitable 1. Fault-finding 1. Impertinent 1. Willful 1. Sexual perversion 1.

The cures suggested are: "keep out of the way of temptation," "will-power," "cultivate love for others," "repeat passages of Scripture," "memory of past consequences."

Conscience Cases.

Sec. III. State a few conscience cases in yourself or others, describing the circumstances that helped or confused them.

The following cases were presented:

Studying on Sunday 7. Dancing 4. Working on Sunday 3. Reading fiction on Sunday 3. Card playing 2. Theatre-going 2. Sunday excursions 2. Waltzing with young men 2. Plagiarism 2. Christian activity 1. Sunday travelling 1. Betting 1. Confession of misdeeds 1. Jesuitical lying 1. Boating on Sunday 1. Party going 1. Alcoholic drinking 1. Attending social entertainments 1.

There was nothing to show that conscience plays any great factor in life before the age of 9, and very little mention was made of it before 13. The cases, however, are altogether too few to make any generalized conclusion concerning the age at which conscience becomes a potent element in the individual, yet it may be premised, that it does not reveal its existence at as early an age as many would believe. The writer knows a child in whom it was abnormally developed at the age of *3*. Impulse governs most of the activities of early childhood.

Direct Moral Education.

Sec. IV. What has been the effect on yourself or others of direct moral inculcation, whether at home in the form of a plain talk, a good dressing down, or advice not sought, or preaching in and out of the pulpit, and school or college instruction in morals? What book, system or idea in each have been morally helpful?

The returns are filled with such statements as: "preaching, or advice unsought, has never done me good, suggestion has." "Direct moral inculcation has never had much effect upon me, unless it came from one I loved." "I have had a good dressing down that did me good." "Instruction not directly aimed at me has been more helpful than that received in any other way." "I have read a number of books that have helped me." "The talks of some people help me, while that of others does me harm." "Direct advice given unsought has done me harm." "Friendly talks have done much in forming my character." "Sermons have helped me many a time." "The early lessons of morality and virtue learned at father's and mother's knee have always been potent in my life."

The number who answered this section was small, not more than a third of those reporting. The returns show the following table:

Benefited by a plain talk 30, injured 4; a good dressing down, benefited 9, injured 2; advice sought, benefited 5, injured 1; advice not sought, benefited 7, injured 16; preaching from the pulpit, benefited 40, injured 2; preaching out of pulpit, benefited 0, injured 7.

The boys were almost unanimous in commending the effects of a good plain talk, and none had a word to say against a good dressing down. Many spoke very gratefully for having had punishment in due season. It does seem that there comes a period in the existence of many a youth, when he conceives the idea that he is lord of creation, and his future usefulness as a member of society depends upon the thorough eradication of this disease of his system by the faithful and energetic administration of birch tonic.

Direct Religious Inculcation.

Sec. V. What has been the effect of direct religious inculcation and what changes of religious views have affected your moral conduct, your conscience and sense of right? Have liberalizing theological opinions made you better or worse, and how?

Sixty-eight returns were received to this section. Some of the expressions quite common to the reports, are: "Direct

religious teaching has purified my ideas of life." "Liberalizing opinions have not in any way benefited me." "I have always ilved in a Christian home and have had religious teaching which I prize." "Since becoming a Christian, I find my moral conduct changed." "Liberalizing opinions but drive me to the old faith." "Liberalizing opinions have had but little effect on my life. I cannot forfeit the peace of believing in Christ for blind theory." "Religious teaching has made me decidedly better." "I think liberalizing theological opinions have made me better," etc.

Of those reporting, 50 say they were benefited by direct religious inculcation, 5 that they were injured; while 3 say they were affected in no way, 10 mentioned example with some precept.

Proper books seem to play an important function in religious education.

Very few mentioned liberalizing theological opinions (8), and they put an interpretation on these words that is not usual. The returns clearly point to the important duty of parents and friends to give proper religious instruction at a very early age.

Influence of Teacher.

Sec. VI. Reflect which teacher or teachers from kindergarten to college, or professional school, or in Sunday school, you have liked best and been influenced most by, and then try to state wherein the influence was felt. What qualities impressed you most, and how? *i. e.*, account, if you can, for the exceptional influence of that particular teacher. Was it generally felt, or peculiar to you and your set? Was it connected with dress, manner, voice, good looks, religious activity or piety, bearing, learning, etc., and how did each salient quality affect you?

G., 18. "The accuracy in work, exactness, and learning of Miss B. have influenced me very much. Through her, I have been led to see and realize more plainly, that there is no way like the right way, and that doing little things wrong, leads to greater error."

G., 19. "Mr. R.'s steady manner, quiet, but stern ways, led me from being a reckless girl, loving evil associates, to be more considerate of my ways. I tried to imitate him. His whole life was one of peace." She also speaks of her S. S. teacher, and says her influence was associated with her voice, manner and religious activity.

G., 18. "Miss T.'s influence was felt morally. It was connected with her voice, manner and religious activity."

G., 19. Speaking of 5 teachers, says: "It was their learning that influenced me."

G., 20. "My teacher's piety and kindness improved me. She was tall and pretty."

G., 19. "A teacher who had fair hair, sweet voice and gentle manners, influenced me for good. I would go home and play I was Miss

G. She dressed neatly. Her influence tended to make me gentle, lovable and neat."

G., 18. "I was influenced by the dress and manners of Miss A.; by the sprightliness and cheerfulness of Miss B., and by the intelligence of Miss C. Her life seemed so pure, so sweet, so saint-like. Her movement and her ways charmed me. Another teacher created in me love of honor, justice and right. She made me see the true purpose of life. She taught me self-control, self-sacrifice, and led me to love my God. I often wonder how she has done so, as her lessons in moral instruction have been few."

G., 18. "I so liked the voice and manner of one of my teachers, that I longed to be able to talk and act like her. I used to try to smile like her and tried to pronounce words like her."

G., 19. "My teacher wore dark colors, had short, black curly hair, skin as fair as could be, a pleasant manner and voice; I wanted to become a teacher like her, dress like her, and act, walk and talk like her. I even wished my hair (red) dyed the same color as hers."

G., 20. "A male teacher was so cross that he created in me a hatred of school and all connected therewith."

G., 20. "At boarding school a male teacher influenced me by his pleasant manners, his knowledge, neatness of appearance, his patience and courtesy in class, and his consistent life."

G., 19. "By his example, my teacher has taught me never to judge human character hastily."

G., 17. "Prof. R.'s knowledge influenced us all very much."

G., 17. "I was influenced for bad by a teacher who was always preaching religion. This led me to despise it. It created in the school a dare-devil spirit. The teacher who succeeded her reformed the school through her actions rather than her words."

G., 17. "My teacher was the first to show me beauty in poetry, and incited me to strive to have nothing but pure thoughts. Her pretty hands enchanted me. Another teacher has planted in me good impulses. She attracted me by her winning ways and smiles. Mr. L. has influenced me by his kindness. All have created in me a thirst for knowledge."

G. W. "A teacher who wore a severely made, tailor-cut-dress, which gave her the appearance of being gloved all over, excited in me the feeling of repulsion."

G. N. "I do not think anything my teacher said influenced me as much as the sweet expression of her face."

G. R. "My teacher's influence was most closely connected with her personal appearance, for she was always very pretty and wore becoming dresses."

G. M. "Her deep religious life made a strong impression on those about her."

G. F. "By her conduct and course in the school, she made me feel the best way to live is to be gentle, and generous, and kind."

G. R. "Through all my public school days I was driven from my teachers by their overbearing manners and sarcastic ways. When 20 I attended a seminary. There I was influenced by a teacher who was not handsome but attractive, well educated, who had full self-control, understood her pupils, was full of encouragement, full of sympathy, gentle and modest in all her ways, and of a deep spiritual nature, not gushing but true. All this inspired me to a life like hers."

B., 20. "I was influenced by Mr. P.'s manly ways, his kind and fatherly regard for his pupils, his sense of right and justice and the personal aid he constantly gave us."

B., 19. "Miss A. won me by her beautiful face, winning ways, and fine dresses. She took a personal interest in her pupils."

B., 18. "My S. S. teacher has influenced me much by her cheefulness. Her voice is soft and inspiring, her manners pleasing, and she is so interesting. Her life is encouraging."

B., 18. "I was attracted by my last teacher, who has black hair and eyes, which color I admire. Her voice and looks draw one to her. She was kind, all her ways were helpful."

B., 19. Speaking of 7 teachers, says: "What influenced me most was their learning. It made me put forth more effort to reach the same goal."

B., 22. "My S. S. teacher was not good looking. She always dressed neat, and her manner and voice were pleasing. Her quiet, Christian life, and her personal interest, were strong factors."

B., 17. "Two teachers have influenced me. The one by her Godliness, which was coupled with good looks, pleasing voice and manners; the other by her moral and intellectual qualities."

B., 18. "Miss S. impressed me by her goodness. She never left her religion at home."

B., 19. Speaks of several teachers, and says: "Their influence was due to manners, education, bearing and piety."

B., 18. "I tried to imitate a teacher at H. S., who was a straightforward man, careful of his language and conduct, and very considerate of others."

B., 20. "Miss P., by her manner towards her pupils, and her personal interest, has aided me much."

B., 18. "Prof. C. has influenced me by his patience, dislike for dishonesty and untruthfulness, and by his fairness with his pupils."

This question was answered by 23 boys and 160 girls. As few gave the exact time of the influence, no table can be prepared which might go to show the age at which the young are most susceptible to impressions from the teacher.

An endeavor has also been made to discover whether male teachers exert a greater influence over boys than do female teachers, and *vice versa* for the girls, but with the exception of the general impression one gets from the returns, the attempt has not been fruitful.

From the showing of the table and the testimony of the writers, it is safe to conclude, that there is an unconscious educative force emanating from the teacher's personality, and so operating upon the pupil as to become a powerful formative agent in the development of his character.

2nd. This force, being unconscious in its origin and in its attracting and transforming effect upon the plastic nature of the young, has its origin in what the teacher is, rather than in what he says.

3rd. It is a significant fact, that 149 out of a possible 183 mention the manner of the teacher as exerting such an influence over their natures. It has been said of more than one man, as of the Earl of Chatham, that "everybody felt there was something finer in the man than anything he ever said." It is this very something in the teacher, that will go down

deeper than his words and either purify, or befoul the springs of action in his pupils.

TABLE NO. I.

SEX OF PUPIL.	GIRLS.-160		
SEX OF TEACHER.	Male.	Female.	Total.
Point of Influence.			
Manner	14	114	128
Religion	5	55	60
Precepts	16	33	49
Learning	12	41	53
Voice	5	47	51
Life	9	35	44
Personal Interest	3	39	42
Good Looks	5	33	38
Dress	3	34	37
Love for Study	4	17	21
Bearing	3	22	25
Interest in Teaching	2	14	16
Language	4	10	14
Patience and Justice	4	10	14
Self-control	2	9	11
Love for Truth	0	3	3
Praise	1	3	4
Conscientiousness	0	3	3
Musical Ability	0	2	2

SEX OF PUPIL.	BOYS.-23		
SEX OF TEACHER.	Male.	Female.	Total.
Point of Influence.			
Manner	7	14	21
Personal Interest	5	4	9
Religious	0	8	8
Good Looks	1	6	7
Learning	2	4	6
Voice	0	6	6
Precepts	5	0	5
Life	1	3	4
Love for Truth	3	0	3
Interest in Teaching	1	2	3
Patience and Justice	1	2	3
Language	2	0	2
Self-control	1	0	1
Bearing	0	1	1
Dress	0	0	0
Love for Study	....	....	....
Praise	....	....	....
Conscientiousness	....	....	....
Music	....	....	....

4th. It is worthy of note that what attracts the pupil is the externals. Voice, Dress, Good Looks, Manners, Religious Activity far overtop the deeper moral elements, but these would be of but little avail did not a teacher possess a personality whereby love, obedience and respect may be inspired. Teachers' life and actions must harmonize. Example and precept are yoke fellows, and children are intensely keen in observing any disparity between them. The teacher's personality determines his worth and moral influence. He who would rule the little child and mould him into pure, noble, useful manhood, must himself be a model of virtue. How pertinent is the question—is not a teacher born, rather than made?

5th. The difference in the general character of the replies given by the boys, from those of the girls, suggests one of two things: either boys do not possess the power of introspection to the same degree as do girls, or else they seriously suffer by passing the period of early youth wholly under the influence of female teachers. As boys detest effeminate qualities in boys, there cannot be, in the female teacher as in the male, the same inspiration and incitement to develop the manly virtues.

6th. Far more powerful than ethical hand-books is *moral life.*

Influence of Companions.

Sec. VII. What playmates, intimate cronies, or friendships have you had that affected your moral nature for good or for bad? Describe concisely each such person, physically and psychically. What temperament, and what were the qualities that especially influenced you, and how? What is your own temperament?

G., 19. "I was very intimate with a girl from 6–16; she was a very religious girl, and it was she who first set me thinking about religion."

G., 20. "I have a companion who is unselfish, cheerful, earnest in all she does and says, pious, and has a great love for humanity. She has made me feel that life is to be used not so much for ourselves as for others."

G., 19. "When young, I had a companion who influenced me for evil. She was stingy, cruel, headstrong and hypocritical. I would do anything for her. She almost weaned me away from my home, my mother and my church. I became disrespectful to my elders, I was almost a liar. I gossipped and neglected my school and my work."

G. O. "A chum who was rich, pretty and well dressed, affected me for evil. She was not studious, was full of fun, fickle, selfish, careless, impulsive, proud and demonstrative. I soon grew like her."

G. H. "One of my companions filled my mind with decidedly wrong thoughts. She was basely deceitful. She danced and flirted and perhaps worse. Though she has gone completely out of my life, yet when I recall the past she stands out as the strongest figure in it, and the wrong I had done to my character through her has never been wholly effaced."

G., 18. "A girl companion, 5 years my senior, safely piloted me through the period, when girls are boy crazy. She toned me down and made a sensible girl of me."

G., 18. "I was intimate with a girl from Chicago who talked to me upon delicate subjects. She invented stories and told them. She almost succeeded in making me believe all people vile and immoral. I almost lost faith in goodness and virtue. So strong was this influence that even to-day the habits of thought then formed are but little eradicated."

G., 20. "When 13 I formed a close friendship with a good girl. She was fond of fun but it must be of the right sort. She was never afraid to say no. I tried to imitate her ways and virtues."

G., 17. "Since coming to the Normal School, a girl companion has helped me to solve questions of moral conduct and also aided me to greater self-control."

G., 22. "A girl companion, who was very selfish, incited me against my parents. She used to say my mother thought more of my older sister than of me."

G., 18. "When 16 I was influenced by a girl companion who was bright, gay, fond of pleasure, and thoughtless. She could never see the serious side of life, did not care for study, nor had she any reverence for things sacred."

G., 17. "I am intimate with a young lady whose society always exhales virtuous influences. I always feel better after being with her."

G., 17. "When 13 a girl friend influenced me for evil. If a bad

meaning could be found in a statement she always discovered it. She had a supply of comic stories which were not always chaste."

G., 20. From 12–16 I was influenced by a girl friend by her pride, her love for dress and her fondness for winning corrupt friends. Through her I neglected my studies, lost love for my home friends, and increased my love for things vile."

G. 17. "Once I had a playmate, pretty and womanly, always kind and courteous, who exercised a great influence over me, as I was the opposite in character and appearance. She taught me to weigh well my actions, to see whether they were right or wrong, kind or unkind."

G., 19. "When 8 I was induced by a playmate to take pennies from my father's money-box."

B., 18. "When 10 I was influenced for evil by a bad boy, who neglected his studies. When 14 I met another boy who was a moral lad, clever at school and careful in all his acts and words. His influence greatly counteracted that of my former companion."

B., 18. "I formed a close friendship with a lad older than myself. He kept me steady, as he had a clear head and high ideals. My morals generally were improved by this association."

B., 19. "A thoughtless, mischievous boy influenced me for evil. He would induce me to run away from home, and then invent some story to tell my mother to hide the act."

B., 20. "When 10, a boy 3 years my senior induced me to smoke and use profane language."

B., 18. "Several years ago I was led to contract immoral and vile habits that I would not otherwise have acquired, by a chum. Physically he was strong and robust; psychically he was happy, gay, bright, good-natured and good looking."

B., 19. "The playmate that influenced me most was a boy of my own age. He was a brilliant scholar, had a happy faculty of not getting into a quarrel, and never returned injury for injury. I was very disagreeable, revengeful, selfish and willful. Influenced by my companion, I cultivated his good nature, and now have gained such self-control, that I hardly ever get into trouble and find delight in being pleasant."

The author knows a man 46 years of age, who has a mania for discovering the vile and obscene in any statement, no matter how pure may be the thought of the speaker. He also knows another man, 42, whose delight is in an immoral tale.

Nearly 200 replies were given to this part of the questionnaire. They furnish some interesting material concerning the manner in which social environment operates.

The good results produced by companionship are: kindness and sympathy G. 32—B—6. Manners 30—6. Self-control 20—5. Christian virtues 20—4. Religious influence 22—1. Disposition improved 15—8. Consideration of others 18—4. Sense of truth 14—3. Æsthetic tastes 15—2. Studiousness 12—2. Ambition find 10—2. Judiciousness 9—3. Language improved 8—1. Character more decisive 6—5. Determination to overcome obstacles 5—4. Truer views of life 6—1. Greater love for parents 3—0.

The evil effects were shown in: General conduct 15—14. General morals 20—6. Untruthfulness 15—4. Evil thoughts

12—5. Boisterous and rough 10—4. Selfishness 10—2. Disobedient 5—3. Swearing 4—4. Neglectful of duty 5—2. Irreligious 5—1. Slang 3—3. Smoking 0—4. Temper 2—1. Neglectful of home 2—0. Love of dress 2—0. Sarcastic 1—0. Stealing 1—0.

An interesting table was obtained which went to show that the age at which these external influences are most felt is from 10—15. The curve reaches its highest point at puberty. The potency of companionship for good, or evil, is further shown by the fact that only 10 returns refused to acknowledge themselves in any way indebted to their associates for good, or evil. It is safe to conclude that social *milieu* is a moral factor second only to that of the home.

Only 6 girls were influenced by boy companions, 5 for good and 1 for evil. 3 boys were affected by girls, 1 for good and 2 for evil. 2 girls speak of being influenced for good by making some lads their companions and trying to reform them.

This practice cannot be too severely condemned. The wail of many a broken-hearted wife, and of social castaways is: "I thought I could reform him." Parents should never be so injudicious as to permit their sons and daughters to undertake such doubtful tasks. The intense subtility and efficiency of suggestion has been fully shown in an excellent paper by Mr. M. H. Small (See PED. SEM. Vol IV, No. 2).

An effort was made to discover the part played by temperament in these associations, but here the answers were too confused to admit of any satisfactory interpretation; 46 were attracted by persons of the opposite disposition, 43 by similar, 50 gave no clue, and 50 confused the matter.

ETHICAL RELATIONS WITH PARENTS.

Sec. VIII. What were your ethical relations with your parents? What kind of personal influence emanated from your father and from your mother? What in their example and in their precepts affected you? Give incidents and details.

G., 19. "My father and mother are religious people, and have created in me a great love for all humanity, for nature, and have helped me to appreciate and put into practice many of the beautiful thoughts of Scripture. My mother exemplifies in her life self-sacrifice and submission. My father sets a most delightful example of honesty, uprightness and patience."

G., 20 "Mother died when I was five. Father always insisted on my doing what was right and punished me when I did wrong."

G., 17. "Mother always taught me to be truthful and respectful. My father's business has kept him away from home so much that I owe no particular influence to him. Mother's unselfishness and sympathy have appealed to me."

G., 14. "Father has always hated a falsehood. He is very forgiving and has taught me to be so also."

G., 18. "My father never gave me any direct moral instruction, but his example was constantly before me. He did not tell me the Sabbath was a holy day, but he showed his reverence for it. He never told me that it was right to go church, but he attended divine service faithfully. He never told me that I ought to be honest and truthful, but he showed these virtues continually."

G., 19. "My mother's Christian character has influenced me greatly. To know her is to love her. Father strove to cultivate in his son industrial habits and upright characters."

G., 19. "My mother ruled her children by love, never by fear. We all felt in her our dearest and closest friend."

G., 17. "My father taught me to be obedient, and never to jest at less worldly favored classmates. From him I learned kindness. Mother planted in me the love for truthfulness and fidelity."

G., 18. "Father has taught me to love books and music; and mother, to hate haughtiness and show."

G., 17. "I have been influenced more by the benevolent, loving, persevering and religious qualities of my parents. Our home has ever been one of peace and trust."

G., 17. I have always felt free to discuss any ethical matter with my parents. Father's strong regard for truth, and his generous and forgiving nature have left their imprint upon me. I feel my mother's presence wherever I go."

G., 20. "Father had a great influence over me in regard to gossiping. He always encouraged us to speak of others as we would have them speak of us. Mamma's charity, sympathy, unselfishness and affection have drawn me very close to her."

G., 18. "My father, a stern and practical man, attended to my lessons. Mother, to my religious and moral nature. She taught me consideration for others, the importance of punctual performance of all duties, and the necessity of doing good. I was allowed to make my own decisions and then reap the consequences. She moulded my character, teaching me truthfulness, honesty, good manners and confidence in God."

G., 18. "Papa and mamma are my advisors on all subjects relating to morals."

G., 20. "Father is a reserved but strict man. His word is law, so that we have always had a feeling that we did things not because it was right, but because he told us to. Mother teaches us the rules of society, and to distinguish between what is proper and improper, rather than between right and wrong."

G., 18. "Mamma was very fond of music and we had a great deal in our home, so that I have grown fond of it. Papa loves reading and I have caught the same spirit."

G., 18. "My mother died when I was six. I, however, remember her kindness, and how she felt when her daughter did wrong. She still exerts an influence over me, as I try to do everything to please her in heaven. I have no confidence in my father, who seems angry with me all the time."

G., 24. "My parents were the embodiments of the Christian virtues, and their lives give me confidence in the Christian religion. Early in life they taught me 'Our Father,' and 'Gentle Jesus,' and the memories of the Scripture readings and the family altar influence my life to-day.

G., 16. "From my father's talk I have gleaned some skeptical ideas, which, I sometimes think, have injured me."

G., 25. "I have always had the closest companionship with my mother, but not so with my father, whom I fear rather than reverence and love."

G., 20. "My father was very attentive to my behavior, company, reading, all that would morally affect me. He punished me for wrong doing, inspired in me the love for learning, and instructed me in the Christian duties. Somehow my mother has not influenced me like most mothers do their daughters."

G., 18. "I never had a sister, so mother has been to me both mother and sister. I told her all my little troubles and secrets that girls tell to their sisters."

G., 18. "The example of my parents has been most inspiring. I can never forget the first verse of Scripture my mother taught me: 'A good name is rather to be chosen than great riches, and loving favor than silver and gold.' Papa's sunny ways have influenced me much."

B., 18. "My mother used to attend church every Sunday and took me with her. Now I rarely stay away."

B., 18. "My mother always read her Bible, and this made a deep impression on me. I was impressed by the pleasant manner between father and mother. Father always tried to show me the right and make me do it, even if he had to punish me."

B., 20. "The personal influence I received from my father is a dislike for tobacco and any of those bad habits. My mother's influence was that of generosity and self-denial."

B., 20. "I was ever influenced by the uprightness and integrity of my parents. They early taught me the nature of right and wrong and their respective results. The familiar sight of father and mother reading their Bible is an example that abides well with their precepts."

B., 18. "I was influenced by the confidence and harmony that always existed between my parents. My mother exerted a greater moral influence over me than did my father."

B., 17. "My father induced me to be saving, generous, kind-hearted and truthful. Mother taught me to be obedient, loving, truthful and temperate, and from their combined example and instruction I have grown religious."

B., 20. "Many personal influences emanated from father, but I think more from mother. They were both devout and watchful of me. They set me a good example. They were strong opponents of the liquor traffic, and so am I. Father smoked, but told me not to. I, however, have followed his example rather than his precept."

B., 23. "The relation with my mother was very different from that with father. To her I would go with all my little troubles. It was from her I received my first training in spiritual things."

B., 18. "From my mother I have learned lessons of self-sacrifice and industry; from father, a true sense of honor and honesty."

B., 18. "I have never received more than half a dozen religious instructions from my parents. Father died when I was young, and I have been away from mother. I have sorely missed their consolations and their aid."

B., 19. "My parents allowed me great freedom in my early life, as long as I did nothing very wrong, but they constantly warned me against wrong practices and corrupt persons. I learned to smoke, but through the kind words of mother and the example of father, who gave up smoking for my sake, I was led to abandon the habit."

The ethical relations with parents, with two exceptions, were always described as of a pleasant and helpful nature. The intimacy existing between mother and child seemed to be more marked, even among the boys, than that between father and son, or daughter. This, however, is due chiefly to the external

business relation of the father, which occupied his time and attention. The following tables show the manner and relation of the parental influence.

Fathers: Christian consistency 31—0.[1] Hatred of falsehood 22—4. Generosity 19—1. Honesty 15—4. Kindness 12—2. Justice 10—0. Forgiving spirit 9—0. Hatred of gossip 9—0. Unselfishness 7—0. Sabbath observance 3—3. Hatred of swearing 2—3. Perseverance 4—0. Patience 4—0. Abstinence from tobacco 1—2. Mental tastes 3—0. Self-respect 3—0. Decision of character 3—0. Temperance 0—3. Control of temper 2—0. Gratitude 2—0. Reading habit 2—0. Reverence and respect 1—1. Obedience 0—2. Skeptical ideas 1—0. Frugality 0—1.

Mothers: Christian virtues 70—6. Unselfishness 24—2. Morals 17—3. Manners 18—2. Sympathy 18—0. The Golden Rule 18—0. Obedience 12—4. Liberality 14—1. Affection 12—1. Hatred of falsehood 9—4. Good disposition 11—1. Little confidences 10—1. Æsthetic tastes 11—0. Patience 10—0. Kindness 8—1. Honesty 1—3. Reverence and respect 2—0. Perseverance 2—0. Sobriety 0—2. Hatred of swearing 0—2. Love for animals 1—0. Good temper 1—0. Purity 0—1. Industry 0—1. Bible reading 0—1. Sabbath observance 0—1.

From these tables it is safe to conclude that there does not exist that difference in moral influence of the parents due to sex, that so many are inclined to believe. Nearly all the fundamental constituents of noble character are found in each, and there is no just reason to doubt that the influence of the father would be equally as potent as that of the mother, did he enjoy the same protracted home relations as does the mother.

2nd. Moral training is not the establishment of mere moral habits, as the ethical people advocate, but is the unfolding and widening of the deeper instincts, particularly the emotions, and has its roots in the religious sentiments that so early pervade child life. Wordsworth truly says: "Heaven lies about us in our infancy." The parent stands in such relation to the child as to enable him to seize upon this seed germ and so nurture it that it will produce the beautiful plant of a pure, noble character.

3rd. Possessing as they do the ear, the heart and the sympathy of the child, parents have it within their power to develop the child into almost whatever they may wish. Hence, if they would but get back to the Hebrew conception of the family, and would devote themselves as diligently to the nurture of their children, as they do now to the ways of fashionable and

[1] First figure represents girls, second boys.

business life, or better still, with all the solicitousness that they exercise in the rearing of their horses and dogs, the problem of the moral regeneration of the race would be most thoroughly solved.

Adult Influence.

Sec. IX. Have other persons than the above influenced your life much, or have you had special attractions or repulsions to individuals, either older or younger, of the same or opposite sex, or to whom you were inclined to go for counsel and conference in confidential matters? Describe the influence of such association.

G., 18. "An old lady to whom I have been accustomed to go for counsel, has had a great influence on my life. She is a thorough Christian, full of sympathy with the young and ever ready to aid."

G , 20. "An old lady of 60 years strongly drew me to her and left the imprint of her character on me. She has a beautiful, calm face, that does one good to look at. She has such a happy way of saying the right thing, and always speaks well of everybody."

G., 21. "When younger I was strongly attracted by an elderly lady whom I tried to make my ideal. Her goodness, beauty of character, kindness, and her great learning strongly influenced me."

G., 25. "I frequently have special attractions to individuals and as frequently repulsions. I prefer principally those of my own sex, both older and younger."

G., 20. "There is one young man whom I seem to despise. He is a fine young man, pleasant and fairly good looking, and of good family. I think his conceit is what repels me. I always go to my older sisters for counsel."

G., 19. "I know a person whom the first time I saw, I disliked. He has such sharp, black eyes, and it seemed as if, when his eye was fixed on you, it would never leave you. He was not the best of men."

G., 18. "I am repelled by a young man on account of his self-importance. He thinks he knows everything and wants to oversee everything."

G., 18. "There is a dressmaker for whom I had a strong repulsion, I cannot tell why. Once when she made me a dress, I worried over it so every time I put it on, that I became ill. I could not bear her presence, and always felt she was going to do me harm."

G., 18. "I had a strong attraction towards a minister who used to visit at my home. He was always ready to give me assistance in my studies, and tried to answer all my questions."

G., 17. "When I first went to H. S. I was attracted by a young man who was an infidel. He so influenced me that ever since I doubt almost everything. I had an aversion for a schoolmate who had a peculiar way of wearing her hair and of airing her knowledge."

G., 20. "There is a lady friend much older than I, to whom I often go for advice. She is such a good Christian, has such good judgment, and is so sweet-tempered."

G., 19. "There was a certain *so-called* minister, whom I always hated. The first time I met him, I felt a strong dislike for him. He attempted to flirt with me, which made me despise him. When I found out that he was a minister, I was glad I was not a man. He was a boorish, low, lying Englishman. His influence in the town was for evil, as he broke up families and life-long friendships. His influence

over me was good, in that it put me on my guard against cranks, and bad, in that it made me disgusted with religious affairs."

B., 20. "There is a Christian lady, who has influenced me by pleading with me to become a Christian. She got me to sign a pledge that I would not drink any intoxicating liquors, nor use tobacco, nor bad language."

B., 20 "When I was younger, an old colored woman, who used to work for us, attracted me very much by her kindness and generosity. I used to consult her in many things and looked up to her. She was a second mother to me, and always influenced me for good."

B., 20. "I was attached to an aunt, who was kind and indulgent. She used to take me for walks in the fields and woods, and tell me all about the birds and flowers. To her I told all my troubles."

B., 20. "I am attracted to B. M. by her social manners, her willingness to help others, and her firm stand against anything degrading."

B., 23. "When 8 I associated with boys several years my senior. These boys taught me to smoke and swear, assuring me that such things make a small boy appear manly."

The number who answered this question is exceedingly limited—55 in all.

Four boys were attracted by males older than themselves, and 7 were drawn to elderly females. The reasons given for this friendship were in the case of the males, intellectual endowments, and practical experience; in the case of the females, kindness, manners, Christian virtues, opposition to evil.

Twelve females were attracted by males older than themselves, and 32 by females. The reasons given for forming the friendship with the males, are: Goodness of character 4. Sympathy 3. Gifts 2. Ministerial attraction 2. Interest in my studies 1. With the females: Christian character 16. Blood relations (grandma and auntie) 9. Manners 4. Kindness 3. Cheerfulness 2. Learning 2.

Eleven girls speak of making younger boys their companions, and 2 report the same of younger girls.

No very definite results concerning the effect of these associations were obtained, but the following were clearly mentioned: Intellectual stimulus 4. Manner of life changed 3. Kindlier nature 3. Sunnier disposition 2. Better manners 2. Religious views strengthened 2. Acquired a contempt for religion 2. Became a total abstainer 1. Truer conceptions of womanhood 1. Learned to follow the lead of elders 1. Developed my temper 1. Clearer sense of right and wrong 1. Greater care in choosing companions 1. Learned to swear 1. To smoke 1.

Twenty-one cases of repulsion are mentioned with 18 reasons assigned. The repulsion in almost every case began with sight and was persistent. The causes given, are: Self-assertion 4. Manners 3. Style of dress 3. Actions 3. Personal appearance 1. Physical deformity 1. Awe 1. Lack of regard for others 1. Too newsy 1.

The most striking point brought out in this section is the

great influence character has in bringing into association the youth and the aged. Men of giant intellects are passed by, while the kind, generous, pious colored washerwoman wins the heart of the lad, and with her sympathy and interest binds him to her and leads him into paths of rectitude.

2nd. The evidence is very clear that, wherever such friendship was formed, it has been beneficial, only two instances being given to the contrary. From this we may conclude that if parents have neither the time nor the disposition to become the companions and guides of their offspring, they can do the child no better service than to encourage him to form a close friendship with some pure soul, who is interested in the elevation of humanity.

It is interesting to compare the influences of the preceding four classes. The *teacher* seems to stimulate the accessories of character, such as manners, sense of social and civil relationships, ambition, tastes, etc. The *parent* develops the fundamentals, such as sympathy, reverence, love, sense of truth, justice, mercy, kindness, meekness, patience, etc.

Companions develop the social qualities, and afford practical application of the teachings of the home and school, and prepare the boy or girl for the further duties of citizenship, by cultivating the sense of independence, individuality, altruism, etc.

The influence exerted by the *fourth* is rather of an advisory nature. Many of them, however, become ideals to the young, and thus stimulate healthy growth.

In the present constitution of social life these four factors *will* operate in either a beneficial or injurious manner upon the growing boy and girl. It becomes the parents, therefore, to see first that their own life and home are right, then to guard their child from undue contamination from a corrupted *milieu*. This can be accomplished, not by building a wall around the child, but by erecting a wall within him, which must be razed before the enemy can take possession. In other words, get the child interested in the useful and the beautiful, so that the obscene and the degrading will have no attraction for him.

Children have certain inalienable rights which fatherhood and motherhood must recognize. They have a right to stand first in the affections, the interests, and the endeavors, of the parent; they have a right to all that is good and noble and encouraging in the parent life; they have a right to find their home the most pleasant spot on earth; they have a right to all the means of refinement that lie within the limits of the parents' purse; they have a right to proper food and clothing for the body, but equally as great a right to mental and moral nourishment, that neither body nor soul may be atrophied; they have a right to have the laws of their development, both phy-

siological and psychical, well understood and held sacred by those in authority over them; they have a right to have their better nature so strengthened that when the seeds of evil speech and evil action fall upon their life, they will take no deep and abiding root, because the soil is already occupied by flowers and the fruits of better hopes.

Games.

Sec. X. What games have you preferred and what has been their influence in developing manliness or womanliness, sense of justice and fair play, honesty, perseverance, hardihood, physical strength, and what recreations do you prefer, and why? What is their effect?

G., 18. "Hide and Seek and Blindman's Buff have helped me to develop honesty. I have been tempted to 'peep,' I have resisted. Cards is now my favorite game. It develops honesty and fair-play. My favorite recreation is 'Day-Dreaming.'"

G., 18. "I like to walk through the woods and over the hills. It has developed a love for nature and made me observing. I am always happy when dancing, and think of nothing but the delightful motion and the rhythm. Boating has also developed a love for nature."

G., 18. "Authors has developed my memory, reasoning, judgment, and made me familiar with the writer and their works. My favorite recreation is roaming through the woods,"

G., 19. "Playing house has developed womanhood, and jackstones perseverance. Putting our country together, and ambassador, developed the intellectual powers."

G., 17. "Croquet has developed a sense of honesty and fair-play."

G., 17. "Games that have influenced me in developing womanliness, sense of justice, perseverance and physical strength, are tennis, cards, chess, field sports and playing house. My recreations are walking and dancing."

G., 17. "Playing 'house' and 'doll dressing' helped me to be-become more womanly. I saw through them the value of knowing how to do things carefully and correctly. Tennis and croquet have developed perseverance."

G., 16. "My recreations are bicycling and walking, because of the fascination of the movement and the sense of power they give."

G., 18. "My favorite games are *tag*, anagrams, and 'Who stole Joseph's coat.' They cultivate attention and concentration."

G., 17. "Reading is my favorite pastime. It has made me unsociable and selfish, even, while at times it has stirred in me high resolves."

G., 20. "Guessing games and puzzles have developed in me perseverance."

G., 17. "When a child I used to like to play school very much. I was generally chosen teacher. I thought it nice to have charge of a school. It made me more dignified and important."

G., 18. "My indoor games were card games, but they were not very helpful, as I almost always cheated."

G., 17. "I am fond of parchesi. It develops honesty, fair-play and perseverance."

G., 27. "For recreation I prefer dancing and skating. Their influence is to make the body strong, graceful and responsive, and thus indirectly improves the mind."

B., 18. "I have always been fond of games of cards, checkers and dominoes. If they had any moral influence, it was bad, for I was very apt to cheat and often studied out injurious plans to carry it out. I am fond of football, which develops strength, and, if rightly played, manliness and hardihood."

B., 19. "My favorite games are tennis and base ball. They have developed manliness, honesty, perseverance and physical strength."

B., 18. "I feel a great sense of relief, when after being at work all day, I can jump on my wheel and take a run of ten miles or so, or take a boat and row about the lake for a short time."

B., 20. "Checkers and cards bring out fair-play, justice and perseverance ; base ball and football, manliness and physical strength."

B., 20. "I obtain greatest pleasure in taking walks through the woods, finding some secluded spot, lying down and enjoying the absence of human noises, having nothing to do but listen to the birds and allow my thoughts to dwell on the beauties of nature and their maker. After such contemplation, I sometimes feel so buoyant, that the desire to run almost overpowers me."

B., 18. "I like to play football because it gives you a chance to show people what stuff you are made of, both morally and mentally."

B., 20. "I always prefer a game of ball. It develops a keen sense of justice, perseverance, honesty and physical strength, one learns perseverance when the game is going against one."

B., 20. "Little Old Man had a tendency to curb a bad temper and uproot injustice. It also developed hardihood."

B., 20. "The games I prefer are tennis, base ball, checkers, parchesi. Base ball and tennis have had an influence in developing my body; checkers in arousing my reasoning powers, parchesi perseverance. I prefer reading and rowing for recreations."

The following list shows the games played by the girls :

Hide and seek 56. Croquet 43. Tag 41. Tennis 36. Checkers 23. Parchesi 22. Authors 19. Dolls 18. House 17. Cards 16. Base ball 15. Blindman's buff 15. Pigs in clover 12. Prisoner's base 12. Jackstones 11. Jumping rope 9. Halma 9. Dominoes 9. I spy 6. Chess 5. Duck on the rock 5. Fox and geese 5. Hop-scotch, tiddledy winks 5. School 5. Messenger boy 4. Old maid 4. Euchre 4. Pussy wants a corner 4. Hoop-rolling 3. Drop the handkerchief, puzzles, whist, marbles, solitaire, kick the wicket, football (3 each). Anagrams, Antony over, colors, shuttlecock, battledore, basket ball, pull away, horse, jack straws, casino, see-saw, mumblety peg, blue bird, ambassadors, robbers, lotto, black bear (2 each). Beanbag, fish-pond, twenty questions, hearts, color of the bird, come to supper, dog on wood, crack the whip, charades, sense steps, hide the thimble, puzzle fifteen, kick the can, red soldier cap, cribbage, bowling, London bridge is falling down, Jacob and Rachel, hare and hounds, my ship's arrived, bright idea, spider and the fly, Louisa, wild horse, golden pavement, consequences, snap, hunt the slipper, kick the stick, geography cards, dice, Peter Coddle's dinner party, putting together our country, princess and captain, ten pins, gymnasium, cars, cross and wood, can can, old witch, running on cans, walking on stilts,

backgammon, criss-cross, here we go round the mulberry tree, toll-gate, giants, Copenhagen, needle's eye, word-making, catch, jack-a-bow, innocence abroad, go bang, mother goose, catch fish, circus, church, babmintor, Indians and guessing games.

Games by the boys, are: Base ball 14. Football 9. Checkers 8. Cards 7. Tennis 6. Marbles 4. Tag 4. Croquet 4. Bowling 3. Hide and seek 3. Dominoes 2. Pool 2. Tiger 1. Blindman's buff, jumping rope, little old man, mossy, shinny, hide the thimble, forfeits, parchesi, chess, tit-tat-toe, quoits, billiards.

In regard to the moral import of games, the following classification shows the way they are viewed by the boys and girls:

Womanliness. Dolls 17. House 12. School 3.

Manliness. Ball 12 (football 6, base ball 6). Tennis 1. Cricket 1.

Mental Power. Authors 5. Checkers 3. Music 2. Chess 1. Cards 1. Parchesi 1. Charades 1. Ball 1. My ship's come home 1. Anagrams 1. Putting our country together 1.

Perseverance. Pigs-in-clover 9. Parchesi 9. Tennis 9. Checkers 8. Ball 8. Croquet 5. Halma 5. Cards 5. Puzzles 5. Hide and seek 5. I spy 2. Authors 2. Tag 2. Chess 2. Tiddledy winks 2. Black bear 1. Robber, puss in corner, backgammon, criss-cross, anagrams, solitaire, duck on rock, the spider and the fly, messenger force, jacks (each 1).

Justice and Fair Play. Croquet 22. Hide and seek 18. Cards 14. Checkers 12. Ball 12. Authors 7. Tag 6. Parchesi 6. Tennis 6. Halma 4. Blindman's buff 4. I spy 3. jacks 3. Prisoner's base 2. Hunt the slipper, black bear, puss in corner, backgammon, criss-cross, toll-gate, puzzles, bowling, dominoes, hop-scotch, ambassador, bright idea, Indians, ten-pins, lotto, chess, innocence abroad, messenger force, quoits (each 1).

Honesty. Croquet 19. Hide and seek 18. Cards 12. Checkers 11. Parchesi 7. Ball 7. Authors 6. Blindman's buff 5. Jacks 5. Tennis 4. I spy 3. Tag 2. Halma 2. Prisoner's base 2. Hunt the slipper, black bear, puss in corner, toll-gate, fish pond, seven steps, colors, hop-scotch, chess, tiddledy winks, innocence abroad, go bang (1 each).

Cheating. Cards 4. Checkers 1. Croquet 1. Dominoes 1.

The recreations mentioned by the girls, are: Walking 35. rowing 35. Reading 33. Skating 32. Dancing 31. Driving 25. Bicycling 20. Riding 14. Music 14. Swimming 4. Coasting 3. Sailing 3. Talking 3. Rambling in the woods 3. Theater 2. Fancy work 2. Spring-board 1. Billiards 1. Tennis 1. Indian clubs 1. Day dreaming 1.

By the boys: Bicycling 7. Swimming 7. Skating 4. Riding

3. Gymnastics 3. Fishing 2. Strolling in the woods 2. Walking 2. Reading 2. Rowing 2. Hunting 1. Sailing 1. Driving 1. Music 1. Bowling 1. Dancing 1.

The reason assigned for the choice of a certain recreation was, in almost every instance, "for physical development."

A number of other reasons, however, were assigned, such as—

Dancing. Mere pleasure, develops the rhythmic sense, makes one graceful, enlivens the spirits, gives pleasant associations.

Theater-going. Pleasure, mental improvement, develops the sympathetic side.

Music. Brings rest and makes one more cheerful, stirs one's deeper nature, produces a feeling of sublimity, develops the æsthetic side.

Fishing. Develops patience and perseverance.

Bowling. Produces physical strength and control of muscular power.

Bicycling. For physical development, gives a sense of freedom and of independence, a great brightener of spirits. The motion is fascinating, pleasure, power to travel.

Rowing. Physical strength, restful.

Skating. Physical development, sense of freedom, hardihood, produces a better mood.

Bathing. Pleasure.

Reading. Takes my attention from my studies, develops sympathy, improves the mind, corrects one's views of life, pleasure; one said: "makes me unsociable and selfish."

Riding. Physical health, restful, brings one into contact with nature, revives drooping spirits.

Walking. Health, communion with nature, spiritual uplift, produces a better mood, pleasure.

It will at once be seen that the great incentive to recreation is the necessity of out-door exercise for health. The choice, however, is chiefly determined by the pleasure produced. The majority of returns state that they saw no particular moral worth in their pastimes. There is no doubt, however, that even these may be made the means of strengthening the moral sense, and the writer is of the opinion that unconsciously, from those avocations, there has accrued to all those reporting some moral wealth.

The returns give clear evidence in regard to the educative value of plays. By them there is developed justice, moderation, self-control, truthfulness, loyalty, brotherly love, courage, perseverance, resolution, perception, prudence, forbearance, sympathy, a training of hand, eye, limb, and of the faculties of judgment. Provision should be made for a child to express and develop his own inner life through this spontaneous and pleas-

urable means. All writers on education have recognized the value of play. An excellent article by Mr Johnson, on "Education by Plays and Games," is found in the PEDAGOGICAL SEMINARY, Vol. III, No. 1, while President Hall's "Story of a Sand Pile" is a classic.

READING, ETC.

Sec. XI. What studies, subjects, or lines of reading, or intellectual interest, have affected you for good or for bad, and how? Did mathematics deeply impress you with universal law, astronomy with sublimity and reverence, chemistry with the order of the infinitesimal, botany and zoölogy with the miraculous nature and persistence of life? Have you experienced special interest in any line of study, and, if so, can you tell what it is about it that attracts you, and how it has affected you for good? Can you describe or account for any aversion you have felt for any special study?

G., 20. "From literature I learned to love poetry for poetry's sake. Botany trained me to patience and perseverance as well as deftness in mounting. Psychology is helping me to break bad habits. Manual training has more bad moral influence than good physical training, as students in this subject will take any amount of help, and it will cause the sweetest tempered people to get mad enough to swear."

G., 19. "Astronomy, botany and zoölogy have strengthened my faith in the existence of a creator."

G., 19. "History has set before me many examples worthy of imitation. Psychology has taught me the wonderful powers of the human mind and made me realize more keenly my faults."

G., 20. "History has taught me much in character, and has set before me ideals. Physiology has taught me to care for my body."

G., 17. "At 10 years of age I took a great aversion to little children. The study of psychology has completely changed my dislike into fondness."

G., 20. "Science has opened to me the wonders of nature and revealed the hidden beauty that is strewn all around. Psychology has opened to me a new life, and both these studies have turned my thoughts to a higher power."

G., 18. "I abhor mathematics, possibly because I do not understand them, they are so vague and unreal."

G., 17. "Literature was to me the origin of higher motives. Geography created in me a more reverent attitude."

G., 18. "History has taught me loyalty to my country and given me an insight into the lives of noble men."

G., 18. "I like mathematics, because I can work until I get the result and can feel certain that I am right."

G., 17. "Literature has led me to carefully choose good books. Before studying it I would read anything."

G., 20. "Mechanical drawing has made me careful and painstaking in all that I do. Mathematics has shown me that careless work in one part will make trouble in another."

G., 20 "I detested physiology. I was fond of running, jumping and climbing. By this study I found out the positions of the bones. I was ever after afraid of dislocating some of them."

G., 19. "I had a most pronounced aversion to algebra. I think

this was in part due to my hatred of the teacher. Since I have had other teachers I can tolerate it."

G., 19. "The natural sciences have made me more reverent. Physiology and psychology made me skeptical in regard to religion."

G , 20. "The study of mathematics has added to my perseverance, neatness and exactness. Scientific cooking has increased my desire to do something for others. I had a special aversion to history. It was always regarded by me as a mass of unrelated facts without any bearing upon our lives. It appealed alone to the memory."

G., 18. "Psychology has broadened my ideas of life, made me think, helped me to self-control, and taught me to study myself and others. It has shown me the nobility of the teacher's calling and the preciousness of a soul."

G., 20. "I always enjoyed mathematics. I liked to solve the problems myself and felt as though I had conquered an enemy."

G., 19. "I have a warm interest in painting, drawing, singing and poetry, as they stir my nature to its very depths. I despise grammar, because it seems to be 'much ado about nothing.'"

G., 19. "As a child I despised history. It seemed dry and stupid. I think this was due to the way it was taught."

G., 17. "Drawing has made me more accurate, patient and self-controlled. Zoölogy has taught me that everything in its own way and language is telling of the wonder works of God. Manual training has made me more persevering, patient, and industrious; astronomy, more reverent; history, braver and more sympathetic; psychology, to live better, more observant and more lenient in condemning the actions of others, and has drawn me closer to children."

B., 20. "Reading dime novels and detective stories had a bad effect upon me. After reading some I got an old revolver and some cartridges and went to the woods to play some of the characters."

B., 18. "Manual training has taught me to be very careful and exact—or spoil the work. Mathematics has made me more rational. Psychology has increased my interest in children."

B., 20. "Mathematics has affected me for good. It has impressed me with universal law, and has cultivated in me the habit of exactness. I think it has affected my ethical nature through the necessity of having principles and following them. Zoölogy and botany have proven to me the goodness of the Creator. Grammar I do not like, because I think it was not well taught."

The following table shows the subjects which seemed to have exerted a good influence upon the student: Psychology 23. Literature 18. History 17. Geography 5. Mathematics 3. Botany 2. Zoölogy 2. Grammar 1. Drawing 1. Manual training 2. Mechanical drawing 1. Physiology 1.

The subjects that have had an evil effect, are: Manual training 4. Physiology 2. Psychology 1. Literature 1. Novel reading is also mentioned by 1.

In reply to the question: Did mathematics impress you with natural law? 24 G. and 2 B. answered *yes*, and 49 G. and 4 B. *no*.

Did astronomy, with sublimity and reverence? *yes*, 44 G., 2 B.; *no*, 2 G.

Did chemistry with the order of the infinitesimal? *Yes*, 17 G., 1 B. *No*, 3 G.

Did botany and zoölogy with the miraculous nature and persistence of life? *Yes*, 70 G., 5 B. *No*, 5 G.

The subjects in which special interest was taken, are: Mathematics 28. Literature 23. History 23. Psychology 20. Botany 16. Zoölogy 11. Geography 10. Drawing 5. Grammar 3. Music 3. Physics 3. Poetry 2. Manual Training 2. Physiology 1.

Special aversion was felt for the following subjects, and the reasons assigned, were: (1) They were poorly taught. (2) The learner had no gift along that line. Manual training 16. Mathematics 12. Grammar 11. History 10. Geography 5. Latin 5. Algebra 4. Rhetoric 3. Geometry 1. Spelling 1. Physiology 1. Drawing 1. Arithmetic 1.

Favorite Books, Proverbs, etc.

Sec. XII. What are your favorite books, and why? Name a few in the order of the benefit you have received from them. Name the pieces, articles, poems, or proverbs, that have come home to you, and why and how. Name, also, any literature you have ever read or heard of, whether in the ancient classics or the modern newspaper, that seemed luminous on the general topics of this syllabus.

The favorite authors are: Longfellow 107. Lew Wallace 44. Bible 40. L. M. Alcott 40. Scott 40. Stowe 34. Dickens 34. Bryant 30. Tennyson 26. Bunyan 21. Whittier 15. Litton 13. Eliot 13. Roe 12. Shakespeare 11. Hawthorne 10. Thomas à Kempis 8. Irving 8. Pansy 8. Elsie Books 8. Emerson 6. Poe 6. Ingraham 6. Lyall 6. Holmes 6. Carey 6. MacDonald 6. Drummond 5. Kingsley 5. Thackeray 5. Grey 5. Black Beauty 5. Many other authors were mentioned but once or twice.

In making up the list of books those read by the boys are kept separate from those read by the girls.

The books reported by the girls are: Ben Hur 41. Bible 32. Psalm of Life 32. Uncle Tom's Cabin 27. Pilgrim's Progress 21. Evangeline 17. Thanatopsis 15. Little Women 11. David Copperfield 10. Myths and Fairy Tales 10. English History 9. Ancient History 9. Paul Revere's Ride 8. Ivanhoe 8. Last Days of Pompeii 8. Elsie Books 7. Chautauqua Series 7. Lucille 6. American History 6. Drummond's Essays 5. Black Beauty 5. Prince of the House of David 5. Romola 5. Bath Stones 5. Robinson Crusoe 4. Merchant of Venice 4. Elegy 4. Snowbound 4. Scarlet Letter 4. Vision of Sir Launfal 4. L. L. Fauntleroy, Paradise Lost, Biographies, Elaine 3, Excelsior, the Gates Ajar, Jane Eyre, Chambered Nautilus, St. Elmo, Old Curiosity Shop,

Hypatia, Titus, Tales of Two Cities, Dream Life, and 201 others, each of which is mentioned once or twice.

Books Read by the Boys. History 6. Adventures 6. E. P. Roe 6. Pilgrim's Progress 5. Uncle Tom's Cabin 4. The Bible 4. Scott 4. Psalm of Life 3. Lady of the Lake 3. Snowbound, Evangeline, Self-helps and Character, Dickens, Shakespeare, Tennyson, Ward's Biography of Washington, Biography of Lincoln, Dumas, O. W. Holmes, and Grey's Elegy (2 each). 67 others were reported, one each, several of which were biographies.

Of the 90 books reported by the 23 boys, 47 are also found among the list given by the girls. The divergence shows itself chiefly in the class of lighter reading. It is perhaps safe to predicate that in all the books having a moral or ethical content, there need be but little or no difference in the material furnished to the sexes until the time when self-consciousness has asserted itself, after which books suited to each should be chosen.

2nd. Children should have their *own* library and possess their *own* books.

3rd. The helpfulness of a book is largely relative, *i. e.*, books that have helped me may not help you, or books that have interested me at a certain period of life may not have any attraction for another at the same period of his life. Their usefulness depends greatly upon the psychic and emotional development of the individual, and upon the circumstances that surround him.

4th. I have no faith in the serviceableness of such books as one forces himself to read for the good they may do him. To aid in growth, in strength, in knowledge and in character, they must be spontaneously chosen.

5th. Goody-goody books are practically valueless, and much of the trash, that flouts its virtues in the eye of the reader, is fit only to companion with the yellow covered literature found in the stalls of every newsdealer. Fiction, provided it be true, is to be commended. Fables, fairy-tales, myths, Bible stories, cannot be too highly prized, as they are the very food on which the emotions are nourished, and it is high time for the teacher and the parent to recognize that the heart is larger than the head, and that the culture of the emotions is the true propædeutic to intellectual growth.

6th. Books should be provided along the line of the child's interest, provided such interest be neither immoral nor debasing. Some children have a great fondness for animals. Books treating of their history, habits and mythology should be furnished. Others are fond of tools, etc. An interest in reading may be aroused by appealing to this passion. Every child has special

tastes, which may be employed to develop a love for pure and ennobling literature.

Proverbs and Adages.

Girls. "If at first you don't succeed try, try again," 17.
"Don't cross a bridge before you come to it," 16.
"Do unto others as you would that they should do unto you," 14. See Matt. 7: 12. Luke 6 : 31.
"Every cloud has a silver lining," 13.
"A stitch in time saves nine," 12.
"The Lord helps those who help themselves," 11.
"It is darkest just before the dawn," 8.
"It 's a long lane that has no turning," 8.
"Never trouble trouble 'till trouble troubles you," 7.
"Never put off until to-morrow what you can do to-day," 6.
"Whatever is worth doing at all is worth doing well," 6.
"What can't be cured must be endured," 5.
"Where there 's a will there 's a way," 5.
"All is not gold that glitters," 5.
"This above all to thine own self be true,
And it must follow as the night the day,
Thou canst not then be false to any man," 5.
"Be good sweet maid and let who will be clever," 3.

Two Each.

"As a man thinketh in his heart so is he."
"Build thee more stately mansions, oh my soul! as the swift seasons roll."
"Life is a sheet of paper white,
Whereon each one of us may write
His word or two and then comes night.
Greatly begin, tho' thou hast time
But for one line be that sublime,
Not failure, but low aim is crime."
"The quality of mercy is not strained."
"He that ruleth his spirit is mightier than he that taketh a city."
"So live that when thy summons come," etc.
"Speak gently, it is better far to rule by love than fear."
"Our greatest glory consists not in never failing but in rising every time we fail."
"I know not what the future hath.
Of marvel or surprise,
Assured alone that life and death
His mercy underlies."
"Breathes there a man with soul so dead
Who never to himself hath said,
This is my own, my native land."
"Oh many a shaft at random sent
Finds mark the archer little meant;
And many a word at random spoken
May soothe, or wound, a heart that 's broken."
"A good name is rather to be chosen than great riches."
"A bird in the hand is worth two in the bush."
"Do not borrow trouble."
"The heights by great men reached and kept,
Were not attained by sudden flights,
But they while their companions slept
Were toiling upward in the night."

"Do not look for wrong and evil,
You will find them if you do;
As you measure for your neighbor
He will measure back to you."
"Look for goodness, look for gladness,
You will find them all the while
As you bring a smiling visage
Towards the glass—you'll meet a smile."

One Each.

"No man doth well, but God hath part in him."
"Our deeds determine us as much as we determine our deeds."
"You are young and have the world before you; stoop as you go through it, and you will miss many a hard thump."
"Where ignorance is bliss 'tis folly to be wise."
"Be not like stream that brawls
Loud with shallow waterfalls,
But in quiet self-control
Link together soul and soul."
"I pray the prayer of Plato old,
God make thee beautiful within,
And let thine eyes the good behold
In everything save sin."
"Little minds are tamed and subdued by misfortune, but great minds rise above it."
"The fittest place where man can die is where he dies for man."
"What thou knowest not now, thou shalt know hereafter."
"Suffer little children to come unto me, and forbid them not, for of such is the kingdom of God."
"Order is Heaven's first law."
"Holiness becometh thine house, O Lord, for ever."
"Within the oyster shell uncouth
The purest gem may hide,
And oft you'll find a heart of truth
Within a rough outside."
"Under all circumstances keep an even mind."
"Variety is the very spice of life that gives it all its flavor."
"Make hay while the sun shines."
"Delay no time, delay has dangerous ends."
"There's many a slip 'twixt the cup and the lip."
"Our prayers and God's mercies are like two buckets in a well, while one ascends the other descends."
"All actual heroes are essential men, and all men possible heroes."
"What we call time enough always proves little enough."
"After wits are dearly bought, so let thy fore-wit guide thy thought."
"Sweet are the uses of adversity."
"Who would be for themselves must strike the blow."
"To live in hearts we leave behind is not to die."
"Full many a gem of purest ray serene
The dark unfathomed caves of ocean bear;
Full many a flower is born to blush unseen
And waste its sweetness on the desert air."
"For every evil under the sun
There is a remedy or there is none;
If there is one try to find it,
If there is none, never mind it."
"The Lord God is a sun and shield; the Lord will give grace and

glory, and no good thing will he withhold from those who walk uprightly."

"Heaven's gates are not so highly arched as king's palaces; they that enter there must go upon their knees."

"Fear God, and when you go men shall think they walk in hallowed cathedrals."

"Dare to say no. To refuse to do a bad thing is to do a good one."

"The thing most specious cannot stead the true,
Who would appear clean must be clean all through."

"One and God make a majority."

"A rolling stone gathers no moss."

"Honesty is the best policy."

"Whatsoever you do, do it heartily as unto the Lord, and not unto men."

"Look before you leap."

"Now is the appointed time."

"To him that hath shall be given, and from him that hath not shall be taken even that which he seemeth to have."

"If wisdom's ways you wisely seek
Five things observe with care,
Of whom you speak, to whom you speak,
And how, and when and where."

"Kind words never die."

"Curses like chickens come home to roost."

"How far that little candle throws his beams,
So shines a good deed in a naughty world."

"Cleanliness is next to godliness."

"Honor and shame from no condition rise,
Act well your part, there all the honor lies."

"Every day should be passed as if it were to be our last."

"Think twice before you speak once."

"A soft answer turneth away wrath."

"It is more blessed to give than to receive."

"Not how much, but how well."

"A stitch in time saves nine."

"Beauty is only skin deep."

"Patience is a virtue."

"Don't cry over spilt milk."

"Do thy duty that is best,
Leave unto the Lord the rest."

"Every shadow is edged with sunshine."

"The only way to have a friend is to be one."

"Of all sad words of tongue or pen,
The saddest are these: 'It might have been.'"

"Work as though you would live forever,
Live as though you 'd die to-day."

"The best part of our life is that which teaches us where knowledge leaves off and ignorance begins."

"Do you court learning's prize,
Climb its heights and seize it;
In ourselves our fortune lies,
Life is what we make it."

"Into each life some rain must fall,
Some days must be dark and dreary."

"Coming events cast their shadows before."

"Kind hearts are more than coronets."

"Somewhere above us, in elysian ether,
Waits the fulfillment of our dearest dreams."

"When adverse winds and waves arise,
And in my heart despondence sighs,
When life her throng of care reveals,
And weakness o'er my spirit steals,
Grateful, I hear the kind decree:
That 'As my days my strength shall be.'"
"There is no rest for the wicked."
"New brooms sweep clean."
"All things come to those who wait."
"Write your injustices in sand, your benefits in marble."
"God helps those who help themselves."
"The waiting time is the hardest time of all."
"Life's sorrows fluctuate, God's love does not,
And his love is unchanged when it changes our lot."
"All things work together for good to those that love God."
"Truth crushed to earth shall rise again."
"Work while you work, play while you play."
"Patience, industry and perseverance overcome all difficulties."
"Never buy a thing that's cheap, it may be dear to you."
"'T is not the thing that you do, dears,
'T is the things you leave undone,
That cause the bitter heartaches
At the setting of the sun."
"Boys flying kites haul in their white winged birds,
But you can't do it when you're flying words."
"Thoughts unexpressed may often fall back dead,
But God himself can't kill them when they're said."
"To do the thing you know you ought to do, at the time when you ought to do it, whether you like it or not, this will bring the joy of doing, this will insure success."
"Forgetting those things which are behind, and reaching forth unto those things which are before." (Phil. 3: 13.)
"Do your best and leave the rest."
"Our to-days and yesterdays are the blocks with which we build."
"The man who seeks one thing in life, and but one, may hope to achieve it before life be done. But he who seeks all things wherever he goes, only reaps from the hopes, which around him he sows, a harvest of barren regrets."
"Tasks in hours of insight willed, may be through days of gloom fulfilled."
"If you make a mistake don't look at it long, take the reason of the thing into your mind and then look forward."
"Profit by the mistakes of others that you may never know their sorrow."
"What is really best for us lies always within our reach, though often overlooked."
"We pass from glory to the grave."
"The penalty of being behind time means so much advantage and opportunity lost."
"Self-reverence, self-knowledge, self-control, these three alone lead man to sovereign power."
"Any life that is worth living must be a struggle, a swimming not with, but against the current."
"In order to be loved you must be lovable."
"There is no failure except in no longer trying."
"Take no thought for the morrow."
"Who never breaks a rule
Is little better than a fool."

"Everything has a place for itself."
"Love thy neighbor as thyself."
"So nigh is grandeur to our dust,
So near is God to man
When duty whispers low thou must,
The youth replies 'I can.'"
"No matter how much you may want to do a thing, if it is your duty not to, you must obey duty rather than pleasure."
"Have you thought what you are doing, have you thought where this will end."
"Whatever you try to do, do it with all your might."
"What man hath done man can do."
"Don't count your chickens before they are hatched."
"We learn not for school but for life."
"To seek is better than to gain,
The fond hope dies as we attain,
Life's faintest things are those which seem,
The best are those of which we dream."
"Be grateful for the gifts that you possess, nor deem a rival's merits make yours less."
"It is better to hope than despair,
It is better to trust than to doubt,
And the soul that looks upward in prayer
Has a light that can never go out."
"If we spend the time in improving the present we do in regretting the past, the future would not steal upon us unawares."
"I slept and dreamt that life was beauty,
I waked and found that life is duty."

"Are there voices in the valley
Lying near the heavenly gate?
When it opens do the harp-strings,
Touched within reverberate?
When like shooting stars, the angels
To your couch at nightfall go,
Are their swift wings heard to rustle?
Tell me? for you know."

"There is a reaper whose name is Death."
"I shot an arrow in the air,
It fell to earth, I know not where."

"Do not let us lie at all. Do not think of one falsity as harmless, another as slight, and another as unintentional. Cast them all aside. They may be light and accidental, but they are ugly soot from the smoke of the pit for all that."
"An epitaph in a country church yard."
"The Psalm of Life."
"Oh why should the spirit of mortals be proud."

Boys. "Lost, yesterday, somewhere between sunrise and sunset, two golden hours, each set with sixty diamond minutes. No reward is offered for they are gone forever."
"Anything that is worth doing is worth doing well."
"There is no time like the present,
The future is not ours;
If we would make our lives sublime
Improve the present hours."
"Little boy with rosy cheeks and auburn hair,
Listen a moment while I say: Do not, do not swear."

"The more haste the less speed."
"Make hay while the sun shines."
"A penny saved is a penny earned."
"A place for everything and everything in its place."
"Behind the clouds the sun is still shining."
"Take care of the pennies and the pounds will take care of themselves."
"I hold it truth with him who sings
To one clear harp in divers tones,
That men may climb on stepping stones
Of their dead selves to higher things."
"Whatever is, is right."
"Experience keeps a dear school, but fools will learn in no other."
"Life is a sheet of paper white
On which each one of us may write
His word or two, and then comes night."
"Nor deem the irrevocable past
As wholly wasted, wholly vain,
If rising on its wrecks at last
To something nobler we attain."
"What man has done man can do."
"Speak out in acts, the time for words has passed and deeds alone suffice."
"Procrastination is the thief of time."
"Actions speak louder than words."
"Be true to your word, your work and your friend."
"You never miss the water till the well runs dry."
"If the shoe fits, put it on (wear it)."
"Fine feathers don't make fine birds."
"If ought good thou canst not say
Of thy neighbor, foe or friend,
Take thou then the silent way,
Lest by words thou shouldst offend."
"Better late than never, but better never late."
"The early bird catches the worm."
"Deeds are fruits, words are but leaves."
"The greatest conqueror is he who conquers himself."
"Face the worst and make the best of it."
"You influence every person you meet."
"Never put off till to-morrow what you can do to-day."
"Still waters run deep."
"A bad penny always returns."
"Birds of a feather flock together."
"Hurry makes waste."
"Think much, speak little, look before you leap."
"Vessels large may venture more,
But little boats should keep near shore."
"Empty your purse into your head and no one can get it from you."
"Straws show which way the wind blows."
"Do the next thing."
"To tell the truth is to make life all golden."

One cannot but be impressed by the great rôle proverbial sayings have played in the moral and psychic life of those reporting. This may be due more to the fact that they are the immediate descendants of that people whose mental nourishment was strongly seasoned with Franklin's "Poor Richard's

Almanac," but be that as it may, the question arises, are we not losing a very potent agency by refusing to employ the rich gnomic literature that has been so formative in all the early peoples?

While it would take volumes to set forth all the virtues of proverbs and fables as seen in the life and literature of more primitive times, a few men of prominence have clothed their views in such brief form, that they will bear transcription.

Aristotle says: "Proverbs are remnants, which on account of their shortness and correctness, have been saved from the wreck and ruin of ancient philosophy." Agricola declares them to be "short sentences into which, as in rules, the ancients have compressed life."

Thomas Fuller defines a proverb as "much matter decocted into few words." James Howell, "a great deal of weight wrapt up in little."

The modern definition is "the wisdom of many and the wit of one."

D'Israeli declares: "centuries have not worm-eaten the solidity of this ancient furniture of the mind."

Since the advent of the printing press, and "the schoolmaster has been let loose upon us, every artisan has become a philosopher and a perfectibilian. The worthy catechumen of the new order does not but despise those saws, and makes no more use of those epigramatic condensations of applicable wisdom, which have long served as a sort of moral code of direction to mankind."[1] In the school-room, or the home no longer is a truth pointed, or a moral lesson clinched by an apothegm. Rationalism and science are no more fit salve for all the evils of life, than is natural history a guide to the farmer in grazing his cattle, or conic sections to the tailor, or chemical affinities to the cook. What the world wants is the truth of experience in an accessible form for the vulgar mind.

The literature of every nation is rich in them. Their origin antedates the authentic history of language. Greece, however, is the country to which modern nations are indebted for much of this lore. Coming in contact with all the eastern peoples, subduing most and inflicting her language and customs upon them, she readily became the treasure house for these philosophic relics. Her philosophers, sophists, dramatists, prose and verse writers have not only employed, but also coined them. Latin writers used them profusely, and Rome has handed them down to her modern descendants as one of the most precious of pedagogic gifts. "For the working classes of a country, they are quaint truisms, sanctioned by extensive experience,

[1] Anomy, *Fraser Mag.*

easily comprehended and circulating readily from mouth to mouth, which, when they continue in use, have great pith and moral influence in assisting a laboring population to just notions of life and relative duties and go further towards the inculcation of sound and applicable sense, than all the pseudo-learning, that, by any process, can ever be driven into the head of a man who has to toil for bread. More good can be done by inoculating the common people of any country with common sense principles and infusing into their minds such fragments of pithy moralizing generally contained in national proverbs, as shall give them habits of reflection and forethought." (*Fraser Mag.*)

Previous to the time of book-making, learning passed from mouth to mouth. The most convenient form was the epigram, hence the great rôle of the proverb in forming the thought and life of all the early nations. "By them, they were reverently received into ordinary parlance, as the condensed wisdom of ages, and the verdicts of hoary-headed experience, and when once received, they governed like Holy Writ." (F. R. Goulding, *Appleton's Journal.*)

So great has been their influence in moulding the national mind, that to know a nation's proverbs is to know its psychic state and moral character. The proverbs of England, as a whole, are stamped with the aim of attaining the art of living wisely, prosperously and happily. Strong marks of the Englishman's doggedness and surliness appear. How the calculating circumspection of the Scotch is brought to the fore! How the pride and grave humor of the Spaniard, together with his tendency to sneer at womanhood and virtue, are discernable! What jealousy and shrewdness and revenge is seen in those of Italy! What conceit and gasconading propensity, what wit and humor in the French! If proverbs have exerted such a powerful influence in the development of the nation soul, or the race soul, what efficient means may they not be in the hands of the instructor, when used in connection with other moral agencies? Are we wise in neglecting to make a much more extended use of them than we do?

We must not think them beneath us. The learned Erasmus in Holland, and Guicardini in Italy, collected and published adages. The great Bacon published apothegms new and old. It is believed Aristotle himself as well as Solomon wrote, or collected proverbs. Bacon says Cicero did. So, too, Plutarch and Stoboeus, of more modern times. Alfred the Great, led the way in England, and Spelman says: "by this means he was considerably assisted in ameliorating and raising the moral character of our ancestors." Much of the teaching of the Druids to the early Britons was proverbial, while the maxims of Confucius and Zoroaster exhibit the same nature. The Tal-

mud is pregnant with them, the Bible teems therewith, while the strength, and beauty, and directness of much of Christ's teaching is due, in part at least, to its proverbial form.

Though proverbs may be the voice of experience, the fiat of the wise and prudent, there is a limit to their use, and it would be very unwise to give an unqualified approval of wholesale parœmiology. The teaching of many adages are so contradictory of the elements of true character that to introduce them into the sphere of the every day life of the ordinary individual would be moral suicide, as the following witness: "The world owes a man a living." "All stratagems are fair in love and war." "Charity begins at home." "Self-preservation is the first law of nature." "What was once a vice is now a custom." One may as well have the game as the name." "Guilt is always timid." "People like to be deceived." "He laughs best who laughs last." It is a significant fact that those European nations that exhibit the most moral degeneracy, possess the greatest number of proverbs that are malicious and vile, while on the other hand that people, whose very name has become a synonym for virtue and morality, has a language pregnant with sayings, teaching the highest conceptions of life and its duties and privileges.

Though the languages of all peoples are strewn with these mischievous sayings, yet the proverbial harvest is so rich, that the parent and the pedagogue can have no trouble in gleaning the choicest seeds therefrom, which may be dropt into the soil of the human heart, from which there may grow the rich fruitage of human character.

To those interested, the following references may be helpful: Parœmiographic Grasci. Göttingen, 1839–51. Proverbs chiefly taken from the Adagia of Erasmus. Robt. Bland, London, 1814. A Handbook of Proverbs. H. G. Bohn, London, 1857. A Polyglot of Foreign Proverbs, with index. H. G. Bohn, 1857. Old Sayed Saws and Adages. James Howell, London, 1659. Dictionary of Spanish Proverbs. John Collins, London, 1823. Quelque Six Mille Proverbs, P. Ch. Cahier, Paris, 1836. Petite Encyclopedie des Proverbs Français. Hilaire le Gais, Paris, 1860. Arabic Proverbs, translated and explained. J. L. Burckhardt, London, 1830. Wit and Wisdom from West Africa. Capt. Burton, London, 1865. Scotch Proverbs. Allan Ramsay, Edinburgh, 1797. Mavor's Provebs, alphabatically arranged. London, 1804. Select Proverbs of all Nations. Thos. Fielding, London, 1821. Proverbs of all Nations, compared and explained and illustrated. Walter R. Riely, London, 1861. Proverbs and their Lessons. R. C. French, London, 1857.

In ethical worth none compare with the unopened mine of the proverbial lore of the Hebrews. See Bible, Apocryphal Books of Wisdom, of Solomon, Ecclesiasticus, the Pirye Abhoth, the Mishna and the Talmud.

General Conclusions.

It would be the height of pedantry to build any elaborate system of moral pedagogy on such a limited supply of data. Neither would it be wise to indulge in any metaphysical speculations, as the material is at best one-sided. Before any satisfactory conclusions can be drawn, a study must be made of persons whose conduct might be designated as moral laxity, a study similar to the one presented by Mr. Geo. Dawson in a previous number of the PEDAGOGICAL SEMINARY.[1] It is hoped that this work may be but the beginning of a more extended study of the subject of moral education, a question fraught with such interest, and so closely connected with the welfare of the race, as well as with that of the individual.

Five important facts, or principles, are clearly suggested by the above material.

1st. Moral action, in early period of life, and even in early manhood and womanhood, is a matter of imitation and suggestion rather than of intellect. The great rôle played by suggestion has been most clearly shown by Mr. M. H. Small in an excellent paper on this subject.[1]

2nd. Though children are born with the sense of the *oughtness* out of which the moral nature grows, yet this would avail nothing, did not parents furnish the growing boy, or girl, with clear conceptions of the moral content of life, *i. e.*, instruct him, or her, thoroughly in all the principles that teach duty to God and man. (See Sections IV, and VIII.)

3rd. It is very evident that much of the moral excellence of the character of many of those reporting is due, in large measure, to the hereditary influence that gathered round them at their birth. Blood does count for something, with a vengeance.

The work of Mr. Dawson, above referred to, goes to show that, of the 52 moral delinquents personally studied by him, the most of them "had parents that were intemperate, improvident, or criminal." When bad environment had joined hands with this bad heredity, nothing short of a miracle could stay the influences that were driving these same boys and girls to the reformatories.

The point I wish to make is, (a) The heredity of the child should be as carefully studied as the strain of the cattle with which the farmer would stock his acres, and any physical weakness, or tendency to evil in his ancestry should be made known to him in order that he may be on his guard, lest the enemy, that

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[1] A study in Youthful Degeneracy. PEDAGOGICAL SEMINARY, Vol. IV, No. 2, p. 221.

[1] The Suggestibility of Children. PEDAGOGICAL SEMINARY, Vol. IV No. 2.

lurks in ambuscade in his very veins, may attack him unawares; (b) The forces of environment should be so controlled, as to destroy, as far as possible, any hereditary taint, and, at the same time, strengthen and develop any predispositions to moral rectitude and manliness of life.

4th. The supreme aim of the parent and the teacher should be to establish definite, strong, correct habits. True morality consists as much in *doing* as in *being*. Habits are the induced states of *mind*, or *body*, by means of which the latent power is transformed into an effective process, and becomes active rather than passive. Their importance is recognized in the mechanical world. The intellectual and moral spheres have indeed been slow to acknowledge their worth. Manual habits enable the mechanic to produce the finished article, moral habits, the boy or girl to maintain a blameless character under every circumstance of life. Sound knowledge of moral truth is good, but sound habits of moral action are better.

It is perhaps universally true that parents have devoted themselves assiduously to the instruction of their sons and daughters rather than to the establishment of habits. The natural and most effective means has thus been neglected, and the true development perverted.

5th. The last stage is the purification of the child's *taste*. All children are born with impulses and desires, which are capable of unlimited education. In the early years of youth, they are the controlling factors of the child. Intelligence and conscience assert their sway later. Not only are there natural tastes but there are acquired ones. The latter are much more numerous, and are the direct production of environment. According as one's tastes are pure and noble, so will be the life. Much can be done to surround the growing soul with such influences as will make for strong, vigorous, noble manhood or womanhood.

6th. For the evolution of the ethical consciousness nothing is perhaps better than the arousing of the religious sentiments.

7th. He who would lead, must walk in the way himself.

8th. Love and faith are worth more than knowledge, or specific forms of government.

So much evidence has been given in the replies quoted above as to the modes of procedure to accomplish these states, that it would be only a needless repetition to rehearse them.

It is hoped that this work may be suggestive of further research, so that in the near future there may be a "science of moral education."

I wish to acknowledge my indebtedness to Dr. Hall, who wrote the syllabus and gave me the returns, and from whom I received many valuable suggestions in working up the material, and for assistance given me when revising the MS.

SOME MENTAL AUTOMATISMS.

By E. H. Lindley and G. E. Partridge, Clark University.

I.

The following study of mental automatisms is based upon returns to a syllabus issued in December, 1895. The topic was suggested by President Hall, who had, indeed, already gathered many facts bearing upon it. The section of the syllabus relating to mental automatisms was as follows:

Describe cases in which you have found yourself more or less automatically (a) trying to step on or avoid cracks in the floor or sidewalk, etc., especially while consciously doing or thinking of other things, (b) striving to count either figures in a pattern, posts flitting past the window of a moving car, the beat of wheels, or other noises or objects; (c) grouping uniformly recurring shapes, as in wall paper into diamond shaped patterns, squares, or other symmetrical forms; (d) bisecting lines or rows of similar things, or figures, or trying to find a middle point, or a third or quarter point, etc.

The returns have yielded 495 usable cases: 137 of avoiding, 155 of counting, 126 of grouping, and 77 of bisecting. Of all who answered, 81.3% testified to having automatisms of counting, 77.1% of avoiding, 66.3% of grouping, and 40.6% of bisecting.

A. Avoiding.

The following are typical cases:

1. F., 17. Ever since I was eight years old I remember avoiding or stepping on cracks. When the spaces between the cracks were large, I avoided them, but when small I always stepped on them. When walking along the platform at the depot, or when on a board walk, I find myself unconsciously doing either one, more often avoiding them.

2. F., 18. From 10 years until a year or two ago I often found myself avoiding the cracks in the sidewalk unconsciously. I often noticed that when my foot was to come on the crack I took a longer step. I used to get angry with myself for doing it.

3. M., 26. I almost invariably counted the boards and stepped carefully on each when going from the house to the pump, when young I believe it was always consciously performed, though it may have begun, and I believe generally did begin, without conscious motive or wish.

4. F. More particularly in my teens and early twenties I remember trying to walk so as to avoid certain regular lines. I would consciously do this without any apparent motive but a feeling of pleasure, and would later find I had continued unconsciously in the same way.

5. F., 17. I often find myself unconsciously stepping on cracks in

the sidewalk. A friend remarked about always being unable to keep step with me.

6. M., 23. While very angry and pacing up and down the room I found myself automatically stepping on the seams of the carpet.

7. F., 17. As far back as I can remember I have avoided cracks unconsciously when walking on the sidewalk. I began to avoid them because my cousin told me it killed ants if I stepped on cracks. It is only when deep in thought that I find myself avoiding them.

8. F., 18. Often when worried or ill, and when thinking, I find myself pacing the floor, stepping from one bunch of flowers in the carpet to another, or, if on the porch, I step between the cracks.

9. F., 18. I have found myself trying to avoid cracks between flagstones in the pavement, while thinking of something entirely different. Two or three years ago it was more frequent than at present.

In the list of objects which were avoided, cracks in the sidewalk lead; then come cracks in the floor, stones in sidewalk, designs and seams of carpet, shadows of electric light, bars of sunlight, gravel stones, waterways, vacant places, door sills, and registers.

Objects stepped on were cracks in the sidewalk, cracks in the floor, oil cloth and carpet, dry bricks, bricks of different shades, boards, sunbeams, knots, furrows, nail heads.

Forty-six speak of avoiding things while the mind is absorbed in something else. Forty-five "found themselves" doing this; did it unconsciously, 18; while talking, 17; called to the fact, 5; purposely, 5.

The states of mind which these automatisms accompany can best be shown by quoting cases.

10. F., 13. I was stopped by my friends, who were greatly amused at what I was doing, of which I was entirely unconscious, my mind having been occupied in trying to solve a difficult problem. My awkward steps were made by trying to step on certain openings between the flagstones of the walk.

11. M., 17. I have been told that when walking over a certain stretch of sidewalk, I took two steps to each section of the walk, careful not to step on a crack, often walking out of step to avoid them.

12. M., 23. Walking with a friend. After a while he said, "What makes you walk so unevenly? Sometimes you take long steps and then again short ones." I had unconsciously been walking so as not to step on the cracks between the flagstones.

13. F., 17. I received a letter from home announcing the illness of my father. I went out for a walk with a friend. My friend said, "Are you afraid to step on the cracks in the pavement? You have been stepping over them carefully ever since you came out."

In other cases the avoiding is carried on less automatically, as:

14. F., 21. When on the street, if I come to a flagstone pavement, I immediately commence to avoid stepping on the cracks. If with a companion, I keep on talking but I am conscious all the while that I am stepping over cracks. It is only flagstone pavements that affect me in this way.

In other cases the avoiding forms the chief part of the mental

content, and is carried on in moments of distraction or as an amusement, *e. g.*:

15. F., 17. About two years ago I had a strange fancy for avoiding cracks in pavements. I cannot tell how it originated, but it seemed as if I must not step on them. At first I did it voluntarily, but I soon found myself doing it when I was not thinking about it at all.

16. M., 29. I always had a tendency to avoid cracks in the sidewalk, but usually it was a conscious effort. I have felt satisfied if I stepped on no more than one in seven or eight cracks.

This suggests the cases in which this impulse is worked into games of poison, etc., in which there is often a feeling of danger connected with stepping on cracks. In some cases the automatisms become so insistent and the feeling element so strong, that they must be regarded as morbid.

17. F., 21. I often found myself avoiding cracks. It seemed as though I might stumble if I stepped on them, or that I might get hurt in some way.

18. F., 23. I feel a keen displeasure if I happen to step on a crack. If one is absolutely unavoidable I try to set the hollow of my foot upon it, never the ball.

19. F., 20. I imagined there was a severe penalty attached if I should step on the cracks of the floor.

20. M., 28. It is almost painful to find that I cannot avoid stepping on a crack.

21. M., 17. If I step on a crack I feel as if something will surely happen, either to me or some of the family.

22. F., 7. I was walking with her one day; she had hold of my hand. Suddenly she said, "Oh, that crack!" went back, stepped over two or three other cracks until she came to that one, and then stepped over it. She says she does n't like to walk with her mother because she will not allow her to step over cracks.

23. F., 20. I have often tried to avoid cracks in a floor or sidewalk. I can remember doing this and imagining there was a severe penalty attached if I should step on them.

24. M., 17. I avoid cracks; something in them suggests danger.

25. F. It seemed as though I should fall if I did not keep on a crack.

26. M., 17. I unconsciously avoid the seams of a carpet; I cannot tell why, but I never feel right if I accidentally step on a seam. I think nothing about it unless I step on one, and then I feel as if something will surely happen, either to me or to some of the family.

27. F., 19. When small I had a feeling that I must not step on cracks; I never knew why. I remember walking over a long bridge at home, but always stepping over the cracks. We had a plank walk leading from the house to the barn. I always stepped over the joinings of the planks. Now I often find when going up the plank walk and thinking of something, that I step over the cracks.

28. M., 28. I never allow myself to step on a crack if it can be avoided. Even on a brick walk it is almost painful to find the width of two bricks too narrow to place one foot upon, so as to escape stepping on the cracks. I am always reasoning that the crack between the two bricks comes in a place where the shoe does not touch the walk. If they are not wide enough, I notice I never allow the toe of the shoe which I can see to cross the crack, but always the heel which is out of sight.

The following cases illustrate the manner in which this tendency to avoid cracks has been utilized in games, and suggests the origin of the folk-lore and superstition connected with this habit.

29. F., 17. I used to avoid cracks, as I was told I would have bad luck if I stepped on them.

30. F., 18. I avoided cracks because I was told if I stepped on a crack it would break my mother's back.

31. F., 18. We school girls used to avoid cracks, because we said if we did n't, we would miss our lessons.

32. F., 18. Children told me if I stepped on a crack I would miss my lessons, but if I did n't, I would find something at the end of the journey.

33. F., 19. I had often been told that I was to have company if I did n't step on the cracks in the pavement. I was always very careful, especially if expecting some one, not to step on the cracks.

34. M., 16. We used to say you would be poisoned if you stepped on a crack.

35. F., 18. As children we used to play poison, in which any one who stepped on a crack was poisoned.

B. Counting.

36. F., 17. Almost every Sunday in church I sit where I can see the larger part of the chancel. I cannot help counting the small posts in the railing that surrounds the chancel.

I was walking with a friend, she noticed that my eyes were fixed on a wagon wheel. She called me to consciousness of the fact that I had been counting the spokes.

37. F., 18. Very often, when walking alone and thinking intently, I find myself counting my steps. When lonesome or ill I cannot avoid counting the ticks of the clock. When on the cars, thinking, I often find myself counting the telegraph poles.

38. F. Everything that comes within my field of vision I count, whether it be fence rails, tacks, nails in wood, people, telegraph poles, bridges, houses, in fact everything. I like to count people in pictures, in parades, in drills, in school. I astonished the people in a little town where I was staying, by running out every day, when the mill bell rang, to count the people. I even went so far as to hold a light up at the window at night, so that I could count the people passing. I count the keys in a piano board, tassels on the drapery, the holes or the brass-headed nails on the bottoms of chairs, the buttons on dresses, the birds on the telegraph wires. I began the habit when I was about four years old. At that time I counted only the letters in words.

39. F., 18. As I ride on the train daily to school, I find myself trying to count the palings in the fences or the cars of a passing train.

40. F., 18. When I hear music, hammering, or beating of any kind, it always forms a rhythm : one, two, one—three ; one—four, etc.

41. F., 22. I count the ticks of the clock continually.

42. F., 19. While studying my lessons I have found myself counting the different patterns of squares in the table cover. There are small squares within larger squares. I first counted the large squares and then the small ones.

When ill I have often counted the number of certain figures which it took to go across one breadth of wall paper. In the same way I have counted figures in the carpet, and the number of stripes in a rag carpet.

43. F., 23. When riding in the cars I often find myself counting telegraph poles, and yet thinking of something else.

While sitting in a room where there is a clock, before I realize it I will be counting the ticks in a rhythmic form: one, two—one, two, etc.

44. F., 17. Once while listening to a lecture, I was counting the stars in the flag over the stage.

45. F., 18. Often when sitting where I can see a house, I find myself counting over and over the weather boards on the side, sometimes I begin at the top, and sometimes at the bottom.

46. F., 17. In a certain church there are a pair of large glass doors which divide two rooms. Whenever I look at these I immediately begin counting the panes.

47. F., 17. I often become nervous and excited because I cannot count the number of gas jets in a chandelier at church; I cannot remember where I begin to count. I have counted the carved figures in the head-board of my bedstead, bunches of flowers in the carpet, books on a long shelf, bricks in a sidewalk, rows of seats in church, stars in papers.

48. F., 21. When travelling I try to count the telegraph poles, or the posts of the fences. If I miss one it seems to bother me, and I feel as though I must go back to it. Sometimes I find myself leaning forward, so as to catch a glimpse, if possible, of the one I am losing. I often find myself counting the ticks of a clock thus: one, two; one, two, etc.

The objects counted, given in the order of frequency of mention, are:

Telephone and telegraph poles, 152; posts, 88; designs in wall paper, 71; beat of wheels, 49; tick of clock, 39; steps, 32; bell strokes, 31; stairs, 25; organ pipes, 24; trees, 24; spokes of wheels, 23; cars, 17; houses, 15; hoof-beats, 14; peoples, 14; revolution of wheels, 11; figures in dress, 11; and the following less than ten times each: designs in carpet, designs in woodwork, rows of objects, boards in walk, railway ties, seats, wainscotting boards, bars in fence, panes of glass, engine puffs, designs in glass, mile posts, time (in music), letters (in signs, words, etc.), fingers, cracks in wall, clock strokes, bridges, signs, buttons in clothing, radiator pipes, holes in chairs, gas or electric lights, slats in blinds, fence corners, books on shelves, carriages, windows, sound of saw, lines of words, rain drops, boards in sidewalk, isinglass, words, strokes of hammer, rounds in chair, boards in floor, splices in belt, designs in fancy work, objects on mantel piece, pump strokes, stitches, rails in fence, telegraph wires, stones in a walk, birds in a flock, teams, sides and angles in geometrical figures, splash of oars, designs in table cloth, words spoken, joints of rails, or a bridge, syllables in sentence, rings on curtain poles, and 20 others given once or twice each, making a total of 95 different objects counted.

The total number of objects counted is 412. Of these 79.4% were objects in the visual field, 19% sounds, 1.6% miscellaneous.

Counting seems to be carried on more frequently as a distraction than avoiding, as is shown by the following summary, showing the circumstances most favorable to counting:

Riding in cars, 67; in church, 33; walking, 30; thinking,

9; in bed, 8; sitting still, 6; alone, 6; ill, 6; and 27 others mentioned less than five times each, nearly all states of listlessness, fatigue, etc.

Counting thus seems to be more closely related to the reverie group, than to the effort automatisms.

The following extracts from cases will show the different degrees of automatism of this group.

49. M., 17. Great habit, after hard day's work, while walking alone, of counting my steps. Thus I have counted the steps I have to take in walking one particular mile more than 200 times. I cannot help counting clock or bell strokes.

50. M., 28. While riding in the cars I sometimes find myself counting away a mile at a time. This occurs only when I am half asleep.

51. M., 19. As I am sitting in a quiet room, especially in church, I will count everything in range of my eyes. I often spend more energy on this than on my work.

52. M., 34. Last year I often found myself counting figures in the wall paper, objects in a picture, etc. I acquired this habit in part from trying to see under how small a visual angle objects can be counted. The habit remained for some time troublesome and then disappeared.

Sometimes, however, the counting seems to be carried on simultaneously with a train of active thought, *e. g.*:

53. F., 17. In the cars, when not interested in a conversation but thinking of something else, I count the telegraph poles.

54. F., 19. When out walking and thinking, I always count my footsteps.

55. F., 17. My mind was full of a lesson at the same time I was counting things on the wall.

It is impossible, of course, to determine whether, in many cases, the automatic action begins when the attention is relaxed, or whether it has been carried on under the threshold of consciousness, or so completely automatized as to escape observation altogether, since the mental automatisms are obviously, unlike the motor automatisms, closed to observation from without.

55. M., 25. While lying in bed in the morning thinking of a problem, the attention was distracted by the sound of voices outside. At the same time I became conscious of counting points in the border of a curtain. I could not quite recall doing this before the attention was distracted, still the counting did not seem to have begun at that moment.

56. F., 11. When the clock strikes I do not always count the number of times, but all at once it comes to me how many times it has struck and I always find that I am right.

57. F., 17. I count the steps when ascending the stairs, not realizing it until the last step is reached. Then the number comes out very vividly into consciousness. The number always proves to be correct.

Whether or not such action as is illustrated by the above cases can properly be said to be performed unconsciously, is a problem which cannot be entered into here.[1] It involves a complete

[1] Mr. F. W. H. Myers (Subliminal Consciousness, Proceedings of

theory of automatic and reflex action. Things said to have been done unconsciously, may have been performed with so slight a conscious impression that they are immediately forgotten, as probably occurs often in so-called dreamless sleep. The testimony in these cases that counting, etc., was being carried on while the mind was engaged in other things, is not conclusive evidence that the two things were simultaneous. Allowance must be made for fluctuations in attention and momentary distractions.

Like the avoiding habit, counting also has the marks of the insistent idea.

58. F., 17. Whenever I travel alone I count telegraph poles and signs, which I pass. I do it even when so tired counting that my head aches.

59. F., 19. I count organ pipes in church. Sometimes it almost makes me crazy, but still I go on counting; if I lose one it worries me.

60. F., 17. I became weary counting the telegraph poles and tried to stop; but when another one went by, something seemed to make me count it.

61. F., 17. I never see a row of seats or of anything else but I have an insane desire to count them.

62. F., 17. It worries me afterwards if I miss one.

63. F., 18. I often became nervous and excited because I could not count the number of gas jets on the chandelier at church.

64. F. When travelling I try to count the telegraph poles; if I miss one it seems to bother me, and I feel as if I must go back to it. Sometimes I find myself leaning forward so as to catch a glimpse, if possible, of the one I am losing.

65. F., 22. On the cars I try to count passing freight cars. It is annoying, for when the cars are going fast, I get tired and very much excited.

66. M., 20. Do this day after day until it has become a perfect bore.

67. F., 17. I cannot prevent myself counting slats in window shutters. I have counted organ pipes in church until tired; I tried to think of other things, but in a moment I was counting again.

68. F., 18. I am forever counting flowers in wall paper, rows of seats, panes of glass, which appear before my eyes. It is annoying but I cannot break myself of the habit. When I notice it I stop, but soon go at it again.

Soc. for Psychical Research) has attempted a general round up of the automatic states. There seems to be justice in his objection to the too free use of the term "unconscious cerebration." His theory is that the conscious personality which we call the self, is but a small part of the psychic activity which goes on in the organism. The empirical self is only one of a number of potential selves. Such automatic mental action as appears in crystal gazing, automatic writing, and the whole range of hypnotic, hysteric, and double personality phenomena, are communications from one stratum of the personality to another. Whatever may be said against his general theory, his objective point of view certainly avoids the narrowness of the philosophy which tries to measure the psyche with the one-foot rule of introspection.

69. F., 19. I am greatly annoyed trying to count flowers in the border of wall paper in my room, things on my bureau, or carved on my bedstead. Do this most when I first awake in the morning.

70. F., 11. I have often found myself striving not to count posts while riding on the train. I would by trying to think of something else, but every time I passed a post I would find myself noting the number.

71. M., 14. I would try to see how many posts had gone past and would feel very much worried if I had n't counted them.

72. F., 14. I have often caught myself counting the spokes in a wagon or a buggy, not thinking what I was doing it for, only it makes me feel more satisfied.

73. F., 17. I count rain drops falling on a certain spot. I get so tired doing it, and yet it seems as if I must. Such things happen when I am tired.

74. F., 20. I used to count the chairs in church. I could not be easy until I was sure I knew the exact number.

75. M., 23. A large driving belt passed up through the floor close by my machine. I often found myself counting the number of times the place where it was spliced passed the machine. I was not afraid of it or of its breaking, but I got into such a habit of counting it, and so nervous over it, that it tired me more than my work. I finally exchanged machines with a boy after trying in vain to break the habit.

In some cases the counting is done by special numbers, one always groups objects by twos, then by threes, and then, if there is a sufficient number, by sixes. Others count by fives, sometimes keeping count on the fingers. There is a feeling of satisfaction if the last number falls on the little finger or thumb. In one case fortunes were cast in this way, by counting letters in a sentence or words in a paragraph. Danger and disaster were associated with an uneven ending.

76. M., 29. I always count with reference to the number five. I count thus (on the fingers) when repeating aloud the Lord's prayer, a psalm, or any familiar quotation. I have done this all my life, and wondered if others did, but I never mentioned the fact before.

77. F., 18. If the last sound fails to come out at the last finger I keep on humming until it does. This has been a great annoyance to me, but it seems that I cannot help it.

78. F. Another tendency, stronger than any yet mentioned, is to count letters in a word on my fingers. I begin with the thumb and spell the word over and over until the last letter of the word comes out on my fourth finger.

79. M., 28. I always had a desire to count objects to see if they were odd or even.

80. F., 17. I am much annoyed by not being able to stop counting the fingers on one hand into fours. I count four until I can end on my little finger.

C. Grouping.

81. F., 21. When about thirteen years old I was sick for two weeks, and as I lay in bed, a large part of the time was spent in putting the leaves of the wall paper into different designs. When I had constructed one I would tear it to pieces, and try to make another. This had a peculiar fascination for me.

While sitting in my room trying to think of something, I have often

caught myself trying to arrange the flowers on the paper into different geometric patterns, sometimes by taking from one part and adding to another. The forms which I make are usually either triangles or squares.

82. F., 19. Very often I have caught myself trying to make patterns out of figures in the wall paper, and sometimes, when lying down and thinking of other things, I find myself trying to find the end of a certain figure in the paper and then trying to connect it with another one.

83. M., 28. The ceiling of the family room in my house is covered with paper figured with circles of three sizes joined by straight lines. When engaged in thought I automatically group these circles into triangular, trapezoidal and diamond-shaped figures, and I have fatigued myself trying to secure a perfect square, or I fall to automatically tracing the linear courses of figures on carpets and wall paper. In riding through a wooded country I unconsciously search for trees involving the simple type forms, and plan how I should have them pruned if not perfect. I feel a slight pleasure when I find a tree which satisfies me. I beguile many a tedious hour in church with a species of half conscious study of the symmetry of the figures in the church windows.

The following objects were grouping; they are given in the order of frequency of mention.

Designs in paper, carpet, oil cloth, etc.; windows; curtain designs; figures in dress goods, in clouds; squares; circles; rows of objects; stars; frescoing; tiling; letters; geometrical figures; rounds of ladder; leaves of trees; fence gratings; and twenty others.

In twenty cases this activity is mentioned as being carried on while thinking, 37 find themselves doing it, when sick 7, lying in bed in the morning, when sleepless, etc.

The forms into which these objects were grouped, and the number of times mentioned, were as follows:

Square, 57; diamond, 30; circle, 21; triangle, 12; wheel, diagonal, trapezoid, straight line, hexagon, octagon, rows, oblong, crescent, pyramid, cone, lines, stars, steps, irregular figures, faces, animals, flowers. (The diamond and the square were mentioned in the syllabus.) In one case the eye simply followed around the lines of flowers on the wall paper without attempting to group or construct. This was a favorite form of distraction with this subject.

Extracts from cases will illustrate the kinds of thinking which tracing accompanies.

84. F., 12. I would unconsciously group the figures of the wall paper, while thinking, or studying about something else.

85. M., 13. I was walking with my brother, I was looking at the stars, forming them into wheels, while telling some stories I had read during the day.

86. F., 18. While listening to one reading I was trying to arrange figures on the wall paper into diamonds.

87. F., 23. While thinking of something else I find myself forming large squares on the oil-cloth.

88. F., 17. While engaged in conversation, I was making diamonds

and squares, and rows of each on the carpet. I was not thinking of the carpet at all.

Much more frequently, however, tracing accompanies states of fatigue and mind wandering, *e. g.*:

89. F., 11. I was sitting reading a book one afternoon, my mind wandered from the book, and I was unconsciously trying to trace squares in the wall paper.

90. F., 20. Often while reading, if I stop to think for a moment, I find myself trying to make squares out of figures in the carpet and wall paper.

91. F., 13. When I am sick I find myself arranging the figures of the wall paper into squares, and then into larger squares, until I cannot make them any larger. Then it comes to me all at once what I have been doing.

92. F., 14. I was not thinking of anything until a knock at the door called my attention to what I was doing. I was tracing out an imaginary checker-board on the tablecloth.

The same feeling of compulsion is found here as in the avoiding automatisms.

93. M., 19. I group patterns on the wall into squares, circles, etc., and if I find this difficult, my mind becomes confused; sometimes it amounts almost to suffering.

94. F., 18. I have often been in rooms where the wall paper seemed to worry me. I have tried to form definite shapes from the pattern, and have also tried to picture out forms of animals and the like from irregularly shaped patterns.

95. F., 18. I try to arrange wall paper, carpets, etc., into squares or circles. It is very irritating not to be able to do it.

96. F., 19. It made me so nervous that I had to have the room repapered.

97. F., 30. I have felt a kind of impulse to study out a pattern, and find all possible groupings of its parts.

98. F., 20. This had a peculiar fascination for me during my illness. Not subject to it at any other time.

99. F., 17. I have done this until it has haunted me.

D. Bisecting.

100. F., 17. I have often, without giving any thought to it, found myself dividing a large room off to see how many small rooms could be made out of it.

101. F., 17. I cannot recall bisecting lines, etc., but if near anything, that does not have two sides equal, I try to find out how it would have to be changed in order to have its parts equal, *e. g.*, in one of my class rooms the blackboard is made of two pieces of different lengths, whenever I look at it I try to find how much larger or smaller the pieces would have to be in order to be equal.

102. M., 23. If in a room where there is a mantel or shelf, on which vases and other ornaments are arranged, I almost always find myself dividing the mantel into halves, thirds or fourths, and then I will use each one of the larger ornaments to mark a point of division. Then the spaces which are left between the large vases will be divided into equal parts, and the small ornaments used to mark the points of division.

103. F., 19. I have half unconsciously divided up objects so as to compare them with similar objects. For instance, I have just changed

my room, and since I have been in the new one I have been comparing the doors. The closet doors are not so wide as the others, but they have the same number of panels. So I have measured off one of the small ones on the large one, to find out how much of the large one is left over. I have often compared and mentally rearranged the pews and organ pipes in church.

104. F., 17. I often find myself dividing the length of a panel in a door by its width to find the proportion between them. I have thousands of times divided the striped portion of our flag by the starred portion, to see how much larger it is. At church every Sunday I compare the height and width of the pulpit stairs.

105. F., 18. While lying on a sofa one afternoon I imagined the triangles on the wall paper turned at an angle around in a circle so as to form a wheel.

The following objects were bisected:

Objects in rows, 34; surfaces, walls, etc., 12; designs in wall paper, 11; organ pipes, 6; designs in furniture, 6; poles, 4; pictures, 4; desks, 4; designs in drapery, 4; designs in carpet, window sash, tables, fences, mouldings, boards, books, beams, mantels, chairs, plates, picture-frames, pencils, sticks, trees, figures in a column, figures in a drawing, shingles, verses, nose and chin, railings, door-posts, telegraph wires, roads, boats, chandeliers, flags, stairs, fields, people.

Bisecting was said to be carried on while thinking of something else in 8 cases; found myself doing it, 15; in church, 10; sick, distracted without thinking of it, unconsciously, lying down, when free to think of anything, talking, on the street cars, tired, reading, listening, in class room, in strange church, studying, mentioned less than five times each.

This group, like the others, shows all the grades of automatic action and absorption.

There are several cases in which objects, not symmetrically arranged, were said to cause annoyance, *e. g.*:

106. F., 18. If I go into a strange room I measure distances with my eyes to see if the pictures, etc., are in the middle of the wall spaces. I want to put them there if they are not.

107. F., 17. In church I think how much better it would be to have half of the choir box removed and the choir put into the middle of the church.

108. F., 19. Whenever I see an object with lines across it I immediately bisect it. If the line is not exactly in the middle it annoys me very much.

109. F. An artist, is always looking to see if a thing is straight. She told me she believed she would have to change her seat in church, because the beam of the cross on the book-mark in the Bible was not perfectly straight, and she sat just in front of it.

No final conclusion can be drawn from the returns studied here, as to the age when these mental automatisms are most frequent, as there are no cases under 11 years, and the majority who reported are from 18 to 22. The habits are often, however, said to have been more persistent during the first years of adolescence.

The cases from 11 to 13 show a less wide range of objects grouped, counted, etc., than those from 17 to 21. In one case counting began with a single group at four years, and was continually added to.

These activities appear as automatisms of effort in comparatively few cases: in avoiding, 33.5% of the whole number, counting, 5.8%, bisecting, 10.4%, grouping, 15.87%, may be called effort automatisms. The great majority must be regarded rather as reverie or distraction phenomena.

II.

Avoiding. In these days of artificial products the foot has been robbed of much of its natural function. With primitive man conditions of travel were very different from what they are now. He had to make his way over rough, unbroken ground, often with scanty protection for his feet. There was constant danger of injury and need of precaution. Sharp stones and branches had to be avoided, there was always danger from poisonous snakes and insects. Still earlier, the animal, depending for its success in the hunt for prey, and for its escape from its enemies upon the silence of its step, had always to proceed with caution. Undoubtedly with many domestic animals, *e. g.*, the horse, a considerable part of the consciousness is concerned with where he shall put his feet. Objects not known to be safe are regarded as dangerous. He is suspicious of bridges, and often of shadows and sunbeams. The extreme sensitiveness of the palms of the hands and feet in man is to be regarded as a relic of this ancestral precaution. The skin of the parts is far more sensitized than any present need or use demands. If this is true, and a factor so important has left any traces at all in consciousness, where should we more reasonably look for them than in such temporarily disorganized states as fatigue and distraction, when the later and more individual and hence less stable associations are cut off, or when the mind is absorbed in deep thought, and inhibition being removed, associations of lower levels are given free play. Is it too much to assert that in these automatic avoidings we have the remnants of an ancestral foot consciousness once an important part of the psychic life but now shrivelled up to insignificant proportions. They may, it is true, all be associations built up in childhood by imitation, added to by folk-lore and games of poison, etc., but the great frequency of the habit, its persistence and imperativeness, point to a deeper origin.

Counting and Grouping. The origin of much of this automatism is to be sought, no doubt, in early acquired associations. Counting is learned early in life, is constantly used, and tends to become automatic. Preyer (*Popular Science Monthly*, Vol. XXIX, p. 221,) shows that a small group of objects can be

counted unconsciously, and that the ability to estimate without counting increases with practice. Cases given above will be recalled in which counting was carried on apparently unconsciously, the number coming out distinctly in consciousness at the end.

In the same way grouping, tracing, bisecting are to be regarded as largely revivals of early associations connected with drawing in school, etc. Just as familiar motor acts are performed automatically, these figures are worked out visually on lines standing ready made. The line which separates motor from mental automatisms is hard to determine, and it is possible that much of this mental automatism arises from automatic, unconscious movements. The eye tends to follow along prominent lines. On entering a strange room one will often follow with the eye first the long lines of the ceiling and walls. Again it is easier, having traced out a figure to repeat it, than to form new combinations. This is the nature of automatic action in general. Much ornamental art consists of such repetition of simple figures. It is, in a sense, a fatigue product and its charm is due in part, no doubt, to the feeling of restfulness which it produces. In some of the cases of tracing there is a more active element, very similar to the puzzle instinct. Combinations are made, and then torn to pieces and new forms constructed. In one case the impulse was to see how many different forms could be traced out of a single pattern.

Grant Allen[1] offers the following explanation of the love of symmetry:

There are two elements in it: (1) An active element, the rhythm and recurrence of bodily movement, such as the automatic leg movements in walking, and the measuring off of equal spaces by the steps. (2) A passive element, habitual observation of symmetrical objects. But the great factor in the building up of the sense of symmetry has been, it may well be claimed, the symmetry of the body itself, a sufficient reason if we take into account the relations between the appreciation of form, and sexual and natural selection. This tendency to develop symmetrically has attended the whole life history of the race, and it seems to be an almost universal habit of matter, organic and inorganic, to crystallize into definite geometrical forms.

Symmetry enters largely into the products of animal activity, *e. g.*, the symmetrical structures of ants and spiders, the circular nests of fishes and birds. The application of such a biological theory of the origin of symmetry love to these groups

[1] The Origin of the Sense of Symmetry, *Mind*, 1879, p. 301.

of mental automatisms is plain. While the content of the automatism may be early acquired, association—the impulse that preserves and makes imperative these forms of eye-geometry, depends upon such instinctive and inherited traces, as, it is believed, form the basis of the love of symmetry itself.

A suggestion may be ventured that we may have to look here finally for the origin not only of all conventionalism in art, but also for the impulse which led to an interest in geometrical science.

The imperative character of the counting automatisms has been commented on above. The telegraph poles flying past seem to stand out from the visual field, and announce their numbers. The mind reacts to certain rhythmical movements and successions of sounds, as if they played upon sensitive chords in the soul. The profound effect of rhythm upon the child and the savage has often been noticed. This effect it is believed, is largely due to the character of the body rhythms. Organic life is full of rhythms from the contractions of the primitive protoplasm to the highest nervous processes. The circulation became separated out as an independent function low down in the animal scale, and became rhythmical. Its effect upon the mental processes is probably the greatest of all the physiological rhythms. Hughlings-Jackson says somewhere that the rhythmic sense is nothing more than the cardiac systole taken up into the highest levels. Dr. Bolton in his experimental work (Rhythm. *Am. Jour. Psychol.*, Vol. VI, p. 145,) found that a series of uniform clicks was irresistibly divided up in accord with the circulatory and respiratory rhythms.

The most probable foundation of the counting impulse is this susceptibility to rhythm, as shown both in the counting of auditory impressions and the tendency to interpret spacial relations in the form of successive sensations. The tendency of all stimuli is to pass into motion. A succession of impressions starts automatisms and seems to summate these responses and to induce a sympathetic vibration in the whole organism. It is a question whether counting was not at first a naming of this succession of feelings.

The effect of an established rhythm seems to be to augment and irradiate the impressions from such regularly occurring excitations as those which form the objects of these mental automatisms. It is comparable to the effect of a resonance box upon the volume of tone from a tuning fork.

The action of the primitive plastid, as well as of the uninhibited nerve cell is constant uninterrupted movement.[1] It is

[1] Le Dantec (Théorie Nouvelle de la Vie) brings forward a theory by which he attempts to unify the anabolic and katabolic processes.

only with development, with inhibition and co-ordination that we get the more complex rhythms. This is shown also in psychic processes. Reflexes and automatisms are inhibited and rhythms are stored up. It is by grouping the elements in the stream of thought that the Umfang of consciousness is widened. Grouping is a synthesis of elements. Rhythm is the basis of apperception according to Wundt.[1] It is the utilization of rhythms that makes up the higher mental processes.

These absorbed states, in which consciousness takes the form of mere succession of sensations, represent a relapse to a more primitive form, in which all change in the psychic life, perhaps, was composed of a series of shocks, corresponding to events in the outer world or to the rhythm of movement.

The effect of body rhythms and automatic movements upon the emotional life is great, and there can be little doubt that they have given the impulse to poetry and music, as well as to counting, and thus to all computation.

Bisecting. Bisecting has been touched upon in connection with symmetry, and the conclusion was reached that a great factor in the symmetry sense was the bilateral form of the body itself. Mach[2] makes the bilateral form of the visual apparatus the foundation of the pleasing effect of symmetry, and points out that it is vertical rather than horizontal symmetry which is pleasing. Nearly all the objects bisected, it will be remembered, as gathered from these cases were bisected with reference to vertical symmetry. This accords very well, also, with the theory maintained in this paper. The bilateral form has been used almost universally in art. Wherever there have been deviations from it, as in the slightly asymmetrical forms used by some races, they seem rather like the slight variations from harmony in music, which make the harmony more complete, than a reaction against symmetry.

In some cases the bisecting impulse seems to be connected with balance, *e. g.*, those cases in which an unsymmetrical arrangement of objects causes feelings of distress and dizziness. Just how the equilibrium of the body is maintained is unknown. Verworn[3] has demonstrated that in the ctenophor the otoliths are connected with this function. Delage and Breuer have proved this to be true, also, for the arthropods and the mollusks, and Verworn concludes that it is also true of vertebrates. According to this explanation equilibrium is preserved by

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They are two phases of the same process he says. Functional activity and growth are one and inseparable. The important bearing of such a conception upon any theory of automatic action is evident.

[1] Physiologische Psychologie II, 246.

[2] Popular Scientific Lectures, p. 88, seq.

[3] Pflüger Archiv., 50, p. 423 seq. Gleichgewicht u. Otolithenorgan.

reflex muscular movements initiated by afferent impulses originating in the otoliths. Dizziness is probably the sensation of incoordinated muscular movements. Whether this is true or not, the feeling of balance is influenced very considerably by sensations received through the eye, as illusions of position and dizziness from unconscious movements of the eyes show. The sense of pressure on the skin has also been thought to be concerned in equilibration. According to this view there are special peripheral nerves which mediate balance, and the feeling of balance comes from equal pressure on both sides of the body. This dividing of the visual field seems to be connected with the part which the eyes play in preserving balance.

Pathological Automatisms. All these mental automatisms have their counterparts in pathological conditions. Arithmomania, or insistent counting, is very common among insane patients. There are cases in which the patient feels impelled to count everything; he is uneasy until he knows the number of objects in a group, people in a church, etc. Others must count a certain number of times before performing any act, the habit often becoming so imperative as to interfere with the work of the patient. The case related above of counting seams in a belt, borders closely on the morbid.

Objects on the wall, figures in wall paper, sometimes become objects of a kind of hypnotic attention, especially in illness. A case observed at the Worcester Lunatic Hospital shows the passage of this attention into a morbid process. The patient, suffering from an acute disease, began to watch a circular spot on the wall, which became so obtrusive that it absorbed all his consciousness. It became at last the center around which delusional ideas were grouped. The trouble disappeared on recovery from the fever. Another border-line phenomenon is the extreme sensitiveness to asymmetry. Two of our cases of normal individuals show this in an extreme degree.

110. M., 35. Becomes angry if everything is not in its proper place, is continually moving books, and dishes on tables into more regular order.

111. M., 28. Other marks of the architectural instinct are quite prominent, and sometimes annoying. I cannot help noticing the symmetry, or want of symmetry in the arrangement of furniture in a room, and have had evenings spoiled by involuntary observation of pictures awry, or too high, or too low, or of chairs, tables, or instruments not arranged harmoniously. While, on the other hand, I am soothed and my better feelings promoted if the arrangement is harmonious. My feelings rebel if the tallest person in a group of three does not walk between the shorter ones. I automatically look at once at the church choir to see if they are graded regularly from the end to the center of the group, the shortest at the ends, the tallest in the center. I also feel a sense of injustice if the parts are not equally represented in number of singers. I have in church and club meetings realized discomfort from observing that the persons present were

not equally distributed in the room. While seated at my desk in conference with callers I automatically draw rapidly at geometrical figures.

Some notable cases of insistent mental automatism have been recorded in history, *e. g.*, Napoleon's habit of counting windows, and Dr. Johnson's habit of touching posts.

The list of mental automatisms and insistent habits comprises many more than those touched upon here. There are many forms of the automatism of touching and avoiding, as the fear of passing posts, or of poison from contact with certain metals or colors. Similar in kind are what might be called automatisms of hesitancy, of repetition, and doubt, and all those inflammations of the categorical imperative so common at puberty, in which moral doubt in regard to common acts is accompanied by repetition, feelings of danger, etc.

Neurological. Demoor,[1] following along lines laid out by Cajal and others, has demonstrated that under the influence of chloroform, chloral, and other narcotics, the dentritic and neuritic processes of the cortex become moniliform or beaded. This condition he believes to be due to contraction and retraction of these elements. Moreover he found that under lighter narcotization the finer and more irradiated branches become moniliform, while the larger ones remained normal. This condition, Demoor believed, would be found also in sleep and other similar conditions.[2]

This theory of the retraction of nerve elements, of making and breaking of contract while not as yet demonstrated, is, as Demoor says, one which is at present dominating neurological thought. Duval and Lapine (see biography contained in the monograph by Demoor quoted above) arrived at conclusions similar to those of Demoor, both admitting that it was exceedingly probable that the nerve elements are capable of amoeboid movements, and that they make temporary connections with neighboring cells. Solvay likewise. Azoulay and Klippel found that in general paralysis the peripheral prolongations of the cells were attacked first, and finally the cell body became involved. Renant, studying the structure of the ocular neurons says: "They make and break." Klemm also says that the brain elements are more or less contractile.

This theory furnishes a plausible hypothesis for the explanation of many hitherto inexplicable states, and particularly such

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[1] La Palasticité morphologique des neurones corticales.

[2] We are not concerned here with the question whether or not this beading is produced by narcotics or by causes yet to be discovered. The essential fact remains that there is a beading of the processes and this *may* represent a retraction of dendrites and neurites.

divided off states as we have in these automatisms, both mental and motor.

F. W. Langdon[1] has attempted to apply this theory to epilepsy and chorea. These, he says, are the result of insufficient inhibition resulting from a diremption of the cortical neurons, the location varying with the type of the disease. Psychic epilepsy and chorea have been similarly explained. While this conception may serve as an explanation of the fundamental conditions in many of these states, it does not, of course, account for the origin or nature of the conditions which have brought about any particular case.

Phylogenetically and in the individual the brain growth is not a uniform process. Flechsig[2] maintains that the projection areas have been developed somewhat independently, while the large association areas are the product of a late development. On the same line is Hughlings-Jackson's three-level theory, and the more recent work of Locy and Bateson, and their theories of segmentation. Also, Hirth[3] maintains that the personality, the "Ichsynthese" is a complex of many elements. We are distracted, he says, because the "Ichsynthese" is not one but many. The brain is made up of many Merk-systemen leading a more or less independent existence, and possessed often of very different temperamental characteristics, such as susceptibility to fatigue, etc. The psychic life is a complex, and, as the pathological conditions of mental shock and confusion abundantly show, a complex liable to diremption. Co-ordination is the result of a high nutrition, and a vigorous living force, and when this gives way, in pathological conditions, and in the normal states of sleep, and fatigue, and hypnosis perhaps, there occurs something of a resolution into elements. Then older, perhaps better nourished "Merk-systemen," to use Hirth's term, come out with greater force and fatality. The psychic life is united, as it were, by sutures, more or less closely knit together, and when broken up by shock, fatigue, etc., tends to divide along fixed lines.

This co-ordination, which is the result of development, and which represents an adaptation to surroundings, is liable to temporary disorganization from environmental changes. In such conditions Dr. Montgomery[4] sees the origin of all organic variation. At adolescence appears a similar disturbance of co-ordination, not from change of environment, but from ripening of new functions. A flood of new instincts and sensations breaks

[1] Journal of Mental and Nervous Diseases, Vol. XXI.
[2] Gehirn and Seele.
[3] Localisations-Psychologie.
[4] Organic Variation, Journal of Morphology, May, 1896, 251–308.

up the old associations. At this time appear a great number of incipient diseases, moral disturbances and imperative ideas; transmitted habits, and diatheses tend to become fixed then, reverie and automatisms seem to be more prevalent. It is a time of setting a new and wider horizon to the psychic life, and it seems probable that all these rudimentary organs, this automatic group, and the absorption states generally, do service then in stimulating and exciting growth of new associations, and assist in producing the general erethism of the nervous structure necessary to accomplish readjustment and unification. In normal growth, after performing this service, they tend to drop out or become absorbed.

In a wider sense the whole problem of pedagogy, according to the new genetic standpoint, is concerned with nascent periods of instinctive interests, and rudimentary organs and how to utilize them as framework for higher structures, as stimulus to interests, and then to cause them to disappear.

Conclusion.

If a conception so speculative may be pardoned, the neural mechanism of these rudimentary organs may be expressed somewhat as follows: A, is an upper stratum of associations, not topographical but physiological, acquired by the individual. B, corresponds to a system of lower associations, inherited perhaps, in some cases acquired in childhood, and constitutes a rudimentary organ. If the associations are all intact which unite A and B, a stimulus reaching B passes up into the higher level A. But if A is cut off from B, then the stimulus is more widely irradiated in B. We have B then functioning only under conditions exceptionally favorable to it. A little later stage of disappearance of B may be imagined, in which its functions, as far as consciousness is concerned, ceases altogether, but it still remains as a center of excitation, or a trophic reservoir for the higher associations, A, corresponding on the psychic side, perhaps, to an interest, and deeper resonance when these associations are excited. Any complete theory of instinct must take into account the influence of such submerged tracts.

Some such action as this must be supposed in these mental automatisms. It would be difficult to prove that any one of them was inherited or instinctive, but the habits formed may be regarded as more easily acquired because of these older associations. It is like tilling soil which has once been ploughed. It is because of them that the automatisms persist and become imperative and obsessional.

Acknowledgments.

The writers take this opportunity of expressing their thanks

to all who have so kindly contributed material for the above study. Special acknowledgments are due the following persons who have contributed large numbers of records: Miss Lillie A. Williams, of the State Normal School, Trenton, N. J., who sent more than one-third of the total number of returns; Principal Purington, of the Maine State Normal, Farmington, Me.; Miss Stickney, Hughes High School, Cincinnati, Ohio; Mr. Noble Harter, Sup't of Schools, Brookville, Indiana; Sup't C. E. Meek and Prof. B. A. Ogdon, of the schools of Terre Haute, Indiana; Principal A. B. Guthrie, High School, Bedford, Indiana; Sup't C. N. Peak and Miss Martha Dorsey, High School, Princeton, Indiana.

THE PSYCHOLOGY AND PEDAGOGY OF ADOLESCENCE.

By E. G. LANCASTER, Fellow in Clark University.

INTRODUCTION.[1]

Child-study is perhaps the greatest educational advance of the century and is pregnant with the greatest possibilities. It is now recognized everywhere as fundamentally important in all educational work. The study of adolescence begins to attract general attention and promises to bring in a new era of education in the years between childhood and adult life. If possible, it is more important than child-study, because dealing with a period fraught with greater dangers and larger possibilities than any other period of life. The briefest possible résumé of publications along that line is given here.

The first publication that the writer has seen appeared in the *Princeton Review*, 1882, and later was reprinted in the PEDAGOGICAL SEMINARY, Vol. I, No. 2, by President G. Stanley Hall, entitled "The Moral and Religious Training of Children and Adolescents."

President Hall set forth the rational grounds of all moral and religious culture. The infant at first shows its religion in the sentiments directed toward the mother. Religious training should not be forced in the early years. Gradually obedience, truthfulness, love of nature and nature's God lead up to love of the Heavenly Father.

Part II concerns the present study. Dr. Hall says: "Probably the most important changes for the educator to study are

[1] *Acknowledgments.* This study has involved me in deep indebtedness to many people. First of all to Dr. Hall for the subject and constant help, and to the Faculty of Clark University and the University Library. I am also deeply indebted to the Worcester Public Library, and the following persons for groups of returns: To Miss L. A. Williams and students of the New Jersey Normal, Dr. Richardson and students of the Castine (Me.) State Normal; Professor Garman and seniors, and Professor Grosvenor, of Amherst College; Principal T. H. Rhodes and students of the Southern Kansas Academy; Dr. O. Chrisman and students of Kansas State Normal; Dr. G. W. A. Luckey and students of Nebraska State University; Mr. Arthur Nutt, Ohio State University; Miss Georgianna Mendum, New York; Dr. Levermore, Adelphi College, Brooklyn; Mrs. J. H. Baird, Poughkeepsie; Principal Huse, Provo (Utah) Academy; several students of Clark University, and three hundred or more who have sent excellent individual returns. My sincere thanks are tendered to all. E. G. L.

those which begin between the ages of twelve and sixteen and are completed only some years later, when the young adolescent receives from nature a new capital of energy and altruistic feeling. It is a physiological second birth, and success in life depends upon the care and wisdom with which this new and final invoice of energy is husbanded." It is a correct instinct that emphasizes regeneration. Far more conversions take place during the adolescent period, pro rata, than during any other period of equal length.

Before this age the child lives in the present a selfish, frank, obedient, imitative life. Now there is a sudden change in body and mind. Things are seen in new relations. Parents lose the confidential grip on the youth. Education must be addressed to freedom now. Then come longings for sympathy, deep emotions, moods, love of solitude, feelings of rivalry, self-sacrifice, etc.

"It is a period of realization, and hence often of introspection. In healthy natures it is the golden age of life." It is a time of rapid change and dangers and temptations are great. It is the time for the greatest love from the home and the deepest interest from the church. It is the first safe time for a change of heart. Previous forcing only inoculates against deeper religious interest later. The whole period should be one of growth extensively and intensively for the best results of religious culture.

The article contains the germs of the present treatise on adolescence.

"The Study of Adolescence" in the same number of the PEDAGOGICAL SEMINARY (Vol. I, No. 2,) is a thorough and far-reaching presentation by Dr. Burnham, of Clark University. This study, and the above-mentioned by President Hall, have furnished the text, if not much of the sermon, for all that the present writer has seen on adolescence.

Dr. Burnham says: "It has been a world-wide custom to celebrate the advent of adolescence with feasts, ceremonies and mystic rites. Among savages the power unflinchingly to endure pain is the usual test of manhood. The breaking out of a tooth, the stinging of wasps and ants, tattooing with a sharp stone, bleeding, circumcision and the like" are practiced to celebrate the advent of puberty.

"Just as a study of the psychology of childhood is an indispensable part of the preparation of every teacher in the lower grades, so a study of adolescence should form a part of the education of every teacher in the higher institutions."

"The subject should be studied scientifically from the standpoints of physiology, anthropology, neurology and psychology." [1]

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[1] It may be said that this suggestion has been followed Mr. Yoder,

Dr. Burnham discussed each of these divisions, bringing together much of the valuable data then accessible. He took Clouston's definition of puberty as the "initial development of the function of reproduction" and adolescence "to denote the whole period of twelve years from the first evolution up to the full perfection of the reproductive energy." Under the physiological, Dr. Burnham gave the ordinary physical changes, growth and the relation of growth to disease. Under psychological changes he discussed at length the mental phenomena of the period. It is a time of new sensations, increased psychic manifestations, and often a storm and stress period. He cited characters from literature who illustrate these phenomena.

He gave the results of a study of answers to a syllabus, treating briefly of dreams, health, dress, conscience, growth and the outcrop of ancestral ways at this period.

The morbid and more serious activities were treated briefly. "Life for the first time perhaps begins to look serious. The young man has come into possession of his inheritance from the past."

Cases were given illustrative of the storm and stress, the doubts and intellectual activities of the years 18 to 25. Half or more had this emotional stress period. He also showed the fact that the period might be repeated in later life. Philosophic writings, done by adolescents, as cited by Dr. Burnham, show that "the incentive to philosophic thought generally comes at adolescence."

"Another phase of adolescence is illustrated in the poetry of the romantic school." "In natures where education and hereditary tendencies check emotion's natural outlet in action, emotion itself becomes the aim of life. Shelley, Byron, Novalis, and perhaps both Goethe and Schiller in their younger days, are examples." "It is evident that there is a great evolution of energy at adolescence that must find outlet in some way." "Youth must be given the opportunity to do something." "The grand pedagogical aim should be to utilize the tempestuous emotions of adolescence."

The whole article should be read very carefully by all who wish to study this subject. The writer finds it a mine of suggestion.

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now President of the Vincennes University, has done considerable work on the physiological, including the neurological side, the results of which are as yet unpublished.

Mr. Daniels, whose study will be considered below, worked up the anthropological side. Mr. Starbuck is making a study of the neurological side of adolescence, and the writer attempts to give below some of the characteristics of the mental side, with some reference, at least, to psychology.

The next paper on adolescence appeared in the *American Journal of Psychology*, Vol. VI, No. 1, written by Arthur H. Daniels, at that time Fellow in Clark University. The title is, "The New Life: A Study of Regeneration." The first part is a careful development of the anthropological side of adolescence.

Mr. Daniels gives a résumé of the rites and ceremonies at puberty known to have been practiced by various peoples, such as circumcision, knocking out the teeth, clipping the hair, tattooing, fasting, seclusion, change of name, beating and torture of the most cruel nature.

"The recognition in so many different ways and by almost every race, of the transition from youth to manhood, has a deep psychological as well as physical significance."

He shows that the taboo which has kept back the needed study of this period and a proper understanding of the common events in a boy's or girl's life was as barbarous in its origin as it now is in its practice. Mr. Daniels says: "Reproductive power might be called the 'apperceptive center' about which are clustered the religious thoughts and, indeed, thoughts about the most sacred and mysterious things, of many people." "Coincident with the functioning of new organs, and the development of cerebral centers which have hitherto lain dormant, are profound, intellectual and emotional changes." "The activity of the organs, which connect the individual with the race, is accompanied by powers and instincts which affect his mental life in its various aspects and mark the beginning of a new life intellectually, morally and emotionally."

He quotes extensively from Dr. Burnham's article cited above to show the awakening of intellectual life at puberty.

In the second part Mr. Daniels takes up regeneration, or the new life of the spirit, as a parallel to the physical changes that come at adolescence. "My main thesis is to show that these practices, both of civilized and uncivilized people, are founded on fundamental, physical and psychological principles, and accordingly to emphasize not only the fitness, but also the need of the spiritual change, which theology has formulated in the doctrine of regeneration during adolescent years."

The author gives a few statistics, not very conclusive, to prove the statement of President Hall that conversions are most frequent in the adolescent period. He discusses the relation between morbid religious conditions and immorality, the naive religious life that grows up naturally to adolescence when there comes a break with the past and there "is need of a new consciousness of God." From this point the discussion is on theology rather than adolescence.

He gives a bibliography of 58 titles, which includes much of the literature on the physical side of adolescence.

"A Study of Conversion," by Mr. Starbuck, Fellow in Clark University, appeared in Vol. VIII, No. 2, of the *American Journal of Psychology*.

The religious element is not by any means characteristic of adolescence, but has often been noticed as occurring most frequently at that time. Mr. Starbuck shows in another paper (at this writing not published) that out of many hundreds of cases of conversion, the greatest number of cases occurs at about sixteen and the average age at nearly the same time. The curve rises rapidly from twelve to sixteen and falls quite rapidly from sixteen to twenty.

I quote from Mr. Starbuck a few passages which bear on adolescence: "The period of adolescence is naturally the time for the awakening into the larger life. It begins at puberty." "Many were left out of the study because they had clearly been forced into compliance with what they were not ready intelligently to accept. They were pulled green and withered." "It is like pulling away the folds of a growing bud to disturb unduly the tender unfolding of the religious nature."

"The hardened natures who need the help of violent methods for restoration are the last to respond, and meanwhile much harm is done to those who are receptive and responsive to finer influence."

"The higher motives should be appealed to more and the lower ones less. It is doubtless entirely out of proportion that one-third of the subjective forces present at conversion were self-regarding (mostly fears) while the number of distinctly altruistic motives" were one-ninth.

In Vol. IX, 1895, of the *Educational Review*, p. 135 ff., appeared an article by W. B. Jacobs, of Brown University, on "Values in Secondary Education." It is a strong attack on the Committee of Ten for neglect of adolescent psychology in their construction of curricula. He uses the facts given in the above noticed articles on adolescence with telling effect. He shows how adolescence must be studied and understood before curricula can be safely laid out, or the question of coeducation settled or the question of what is valuable in High School years or what is injurious can be determined.

The study of adolescence has attracted the notice of educators as evinced by this article of Jacobs and the following from the Report of the Committee of Fifteen, found also in the Report of Education, 1893-4, Vol. I, p. 485.

"THE SCIENCE OF TEACHING.

The elements of this science are:

I. Psychology in its physiological, apperceptive and experimental features. The period of adolescence here assumes

the prominence that childhood has in the psychological study preparatory to teaching in lower schools. This is the period of beginnings, the beginning of a more ambitious and generous life, a life having the future wrapped up in it; a transition period of mental storm and stress in which egoism gives way to altruism, romance has charm, and the social, moral and religious feelings bud and bloom. To guide youth at this formative stage, in which an active fermentation occurs, that may give wine or vinegar, according to conditions, requires a deep and sympathetic nature and that knowledge of the changing life which supplies guidance wise and adequate."

These suggestions have received far too little notice from teachers, probably because the psychology of adolescence is not widely known, and there is almost no literature on the subject.

In No. VIII of "Studies in Education," by Earl Barnes, of Stanford University, is a short article on "Sex-information" with a carefully selected bibliography of the literature intended to give such information. It should be consulted for the literature on adolescence. In addition to the above there is much literature that moralizes on the training of young people and freely "sheds advice," but cannot be recommended for a scientific study of this much misunderstood period of life.

Clouston, in Hack Tuke's Dictionary of Psychological Medicine, Vol. I, pp. 360 to 371, gives a general statement of the physiological psychology of adolescence from the medical standpoint.

The qualities and characteristics of a human brain are greatly different in childhood, puberty, early and later adolescence. The brain is liable to different diseases at these different stages. There is no period of life when uncomplicated insanity occurs more frequently than from 21 to 25. 78 per cent. of the cases of insanity of adolescence are those of mania, while most of the others are melancholia. He discusses the symptoms and meaning of disease at this period, the treatment, and the normal psychology of adolescence.

Madden, in Keating's Cyclopedia of the Diseases of Children, Vol. I, pp. 389 to 416, gives valuable results of many years of study of puberty, the time of its occurrence, and hygienic treatment. Ill fed children cannot endure mental strain at this period. Female diseases are mostly sown at puberty. Musical stimulation several hours a day is doubtful in its moral value. He gives rare and precocious cases of puberty.

There are many articles scattered through medical literature, but these are sufficient for an introduction to that literature.

CHAPTER I.

The hope of Truth grows stronger day by day;
I hear the soul of Man around me waking
Like a great sea, its frozen fetters breaking,
And flinging up to heaven its sunlit spray,

. . . . . .

And every hour new signs of promise tell
That the great soul shall once again be free,
For high, and yet more high, the murmurs swell
Of inward strife for truth and liberty.

—LOWELL. *Sub Pondere Crescit.*

The growing interest in adolescence is one of the "new signs of promise" that a greater freedom, and a love and sympathy hitherto unknown, shall become the inheritance of all young people.

Savage tribes have long observed the period as one demanding special treatment, and enlightened people have expressed deep concern for young people at this age, but in both cases youth suffer because they have been misunderstood.

Many of the methods which have been so fruitful in the study of the child should be used to mass records, observations and data of all kinds regarding the adolescent period.

To allow young people to express their own feelings and opinions, a syllabus on Adolescent Phenomena in Body and Mind, prepared by President G. Stanley Hall and the writer, was addressed to persons between the ages 12 and 25, and to teachers and parents for observations or reminiscences, asking for full and free replies.

They came, evidently from full hearts. 827 have been received, some taking 75 pages of foolscap for one individual return. These answers have been grouped and condensed and the results will be given, first with little comment, followed by a more complete discussion.[1]

For a better presentation the order of the syllabus will be changed here. The syllabus will be given one section at a time for closer connection with the statements of results.

I. PHYSICAL CHANGES.

Physical adolescence begins with puberty,[2] which in turn

[1] A book of these condensed returns may yet appear as a heartfelt appeal to parents and educators.

[2] See Bièrent, "La Puberté," Paris, 1896, pp. 200, with bibliography of 65 titles giving physical and medical literature mostly in French

begins with certain internal developments followed by the external phenomena which indicate the advent of puberty.

Beneke says,[1] that from birth to the end of puberty a complete conversion of the relation existing between the size of the heart and the width of the arterial system of vessels takes place. In childhood the heart is relatively small against relatively large arteries. It remains much the same till puberty.

With growth in the length of the body this relation is reversed in consequence of a sudden increase in the amount of blood which demands increased work of the heart and therefore increases rapidly the size of the heart with a relatively small growth of the arteries in cross section. This new relation is permanent.

In childhood the relation of the heart to the arteries is as 25 to 20. Before puberty this becomes 140 to 50, and in full maturity 290 to 61. The blood pressure is therefore far lower in childhood and very much higher in adolescence. An exception occurs in the pressure of blood in the lungs which is slightly lower in the adult. The blood pressure is, then, lower while the brain is growing and higher after it has reached its maximum size. This change of blood pressure is therefore one of the first signs of approaching puberty.

There is a slight increase in the temperature of the body at puberty which indicates unusual chemical activity. There is, too, an increase of red corpuscles in the blood which makes anæmia especially dangerous at this period.

No one knows as yet what changes occur in the brain. The weight has nearly reached its maximum years before.[2]

It is thought that there is a large increase of association fibers and medullation of fibers which shows their maturity.

Externally there is with girls the periodic sickness as a definite sign of puberty, when it occurs normally, followed by rapid maturity of the body as a preparation for motherhood. The figure rounds out, the bust develops and the bones in the pelvis change rapidly. The change in the angle of the vertical axis of the pelvis is one of the first developments which, with the rapid growth of the hip bones, makes the girl taller about 13 than the boy, when standing. "This affects the length of the step and position of the body,"[3] and causes an awkward movement in walking. Running becomes very difficult. The art of graceful walking or running must be acquired anew. Ascending stairs becomes especially difficult with girls who are best developed.

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[1] Ranke, Grundzüge der Pysiologie des Menschen, S. 491 ff.

[2] Donaldson, "Growth of the Brain."

[3] See Dornblüth, "Die Gesundheitspflege der Schuljugend," pp. 145-154.

Growth of the thigh bones may be so rapid at this period, with both sexes, that the muscles cannot keep pace with them and the result is a stretching of the muscles, causing "growing pains." These are often severe. The returns show this phenomenon only with boys. It doubtless may exist in both sexes. On the other hand, the muscular system may grow faster than the bones and the boy becomes clumsy. He cannot control his movements easily and runs against everything, drops whatever he touches and tumbles over it in trying to pick it up.

For exact data the following questions were asked in the syllabus. 341 males and 446 females answered part or all of it.

Growth generally. When was growth in height or weight greatest? Was this period of growth attended by better or deranged health? Give any details; as to how much, where, how long, etc.

187 persons answered this section of the syllabus. Of these 139—48 M., 91 F., said that they grew most rapidly in height just after puberty, while 48—10 M., 38 F., grew at or before puberty, or were indefinite in answer.

These answers brought out clearly a relation between growth and health not mentioned before. 133 of these report health better or undisturbed by the rapid growth and advent of puberty. 38 report health poor and 3 report great weakness. The rest of the 187 are not definite. It will be noticed that these numbers correspond roughly to the numbers who grew after and before puberty.

A careful study of this point, based on these returns, indicates that the period of most rapid growth in height and weight comes normally after puberty. If this rapid growth comes before puberty, health may be endangered while growing or at puberty or at both times.

The figures are certainly significant.

Most rapid growth at or before puberty and health good, 2 M., 10 F.

Most rapid growth at or before puberty and health poor, 3 M., 36 F.

Most rapid growth after puberty and health poor, 1 M., 11 F.

Most rapid growth after puberty and health good or improved, 17 M., 80 F.

Thus 8 to 1 have good health at time of growth and puberty if the rapid growth is after puberty, while over 3 to 1 have poor health if the rapid growth comes at or before puberty. This, of course, does not mean that for a year or two before puberty there may not be an accelerated growth without danger, but to shoot up to nearly the full stature as they often do safely after puberty, is dangerous before puberty.

Taking the number that report the time of the most rapid

growth by years, the years range from 9 to 19, with the following number of cases reporting for each year, respectively: F., 5, 11, 17, 41, 45, 57, 51, 29, 10, 6, 3. That is, 5 at 9, 11 at 10, 17 at 11, 41 at 12, etc.

The curve would thus culminate at the age of 14, which is very similar to the curve of Key. The curve for boys culminates at 15 to 16.

In weight the greatest growth in any one year is reported for the years 10 to 23 respectively, as follows: F., 2, 4, 14, 13, 15, 18, 24, 35, 13, 8, 6, 4, 2, 1.

The curve of growth in weight culminates two or three years after the curve of growth in height. With boys the growth in height was greatest at 15 and 16, in weight at 16, 17 and 18. The number of boys answering this question is too small to be very significant.

According to Key's law, the period of maximum growth is the period of maximum power to resist disease.

These returns show that extreme growth in height at any time is likely to be accompanied by ill health or great weakness. This liability is less if there is a good increase of weight at the same time. Growth in weight after puberty is generally accompanied by good health. A large and rapid increase of weight before puberty is likely to be accompanied with ill health.

This relation of growth to health, as pointed out by Key and others, shows the relation of growth to chronic diseases. It does not follow that growth may not be accompanied by weakness or deranged health which may render good work in school or elsewhere almost impossible.

Space will allow only a few typical returns on each section selected from a very large number.

M., 32. At 15 I had to leave school, owing to a peculiar sickness incident to growth. My muscles felt stretched, not long enough for the bones. One time I walked two blocks and absolutely could not walk any farther. Quit going to school for a time.

M., 18. Health very good. Dream less and sleep better. Grew rapidly 14 to 16. Troubled by growing pains. Grew in weight 12 to 18 from 98 to 180 lbs.

F., 18. Growth in height was greatest at 14, and in weight at 12. Health was most deranged. Puberty at 12 years and 8 months.

F., 20. Grew tall fastest 9 to 14. Health not so good at this time. Puberty 14 years and 9 months. Health now very good.

F., 17. Grew most rapidly 11 to 13 in height and weight. Head and stomach trouble. Puberty 12.6.

F., 20. I grew the fastest about 15. Greatest increase in weight at 19. Health better then. Health poor during adolescence. Nervous and stomach trouble. Puberty at 15 years and 10 months.

F., 17. Grew in height 12 to 14. Weight 14 to 16. Indigestion and stomach trouble, though general health good. Puberty at 13 years and 9 months.

M., 18. At 15 I was medium height and weighed 110 lbs. Now at 18 I am 6 feet and weigh 170 lbs. Puberty at 14. Health good.

F., 19. Until 15 I was a somnambulist, since then restless. I had dyspepsia for a long time. Have outgrown it. At times have been more nervous since 12. Growth in height greatest at 14. In weight 17 to 18. Growth in height accompanied by deranged health, and I continued in poor health till I grew stouter.

F., 21. Greatest growth in height 16 to 19. I was not so well while growing. Was very small at 16 and grew rapidly. Grew in weight at 18. Puberty at 15.

M., 21. Health was not so good. Nerves and stomach. In 12 months, from 16 to 17, I grew 12 inches. Health not so good that year. Later I grew stronger all over. (Another exactly duplicates this growth, with weakness, but good health.)

F., 18. Grew most 12 to 14. I grew tall and thin and felt weak. Health not so good while growing so fast. Puberty at 13 years and 4 months.

F. I seem now a bundle of quivering nerves, I never get rested. Greatest growth 10 to 12 in height, in weight 15 to 20. Health not so good. Puberty at 15 years and 3 months.

F., 16. At 13 my nerves were affected very badly. Could not attend church for some time or recite in school. Grew in height 13 to 15, weight 15 to 16. Health poorer 13 to 16. Puberty at 13 years and 9 months.

F., 19. I grew rapidly from 13 to 16. It took all my strength and I was tired all the time. Could not get rested. Gained weight at 18. Health better at that time.

F., 19. At 13 not expected to live from chorea. After recovering from that I suffered from sick-headaches. They are becoming less frequent Grew most rapidly 10 to 14, attended by poorer health. Puberty at 14.

F., 17. Eyes, nerves, head and stomach affected. Appetite not so good. Sleep better. Grew most in height 12 to 13, in weight 14 to 17. When growing in weight my health was not so good. Puberty at 15 years and 1 month.

F., 19. Have been very nervous since 12. Puberty at 14. Grew most 12 to 15. Health was much poorer. Back troubled me. Was sick in bed for a long time at 14.

F., 26. As a child was small and delicate, grew stronger. Increase in height at 13, in weight at 17. Period of rapid growth attended by poor health. I was weak, suffered with severe pains in head, back and legs. Puberty 11.5.

F., 32. Growth in both height and weight was greatest from 16 to 18. Health better at that time.

F., 18. From 15 to 17 I secured my greatest growth, which was attended by poor health, especially being very weak and tired. Puberty 16 years and 2 months.

F., 17. Grew fastest 10 to 12 and it was attended by poorer health.

F. My greatest growth was at 16. I had a long illness of over 21 weeks. When I was taken ill I was small, thin and short. After it I was as tall as I am at present, 5 ft. and 4 inches. Of course I was very thin and frail but I soon filled out and weighed 115 lbs. The first signs of puberty came at 17. It was after that long illness.

General Health, then and now. If imperfect, how, respecting eyes, nerves, head, stomach, etc.? Was sleep or dreams, or appetite for food affected?

There were 355 answers to this section. 255—105 M., 150 F.,

report good or better health 12 to 20. 100—32 M., 68 F., report poorer health.

The nervous troubles that may develop and the special diseases of adolescence have received careful attention.[1]

The following list of diseases reported to have been outgrown is a long one and admitting mistaken diagnosis is very hopeful and valuable. Curvature of the spine, 1 F.; biliousness, 1 M., 1 F.; bad dreams, 3 M., 8 F.; eye trouble, 3 M., 2 F.; 2 cases laid aside spectacles; chorea, 2 F.; gout, 1 F.; heart trouble, 1 F.; headache, 3 M., 8 F.; nervousness, 2 M., 3 F.; stomach trouble, 3 M., 4 F.; rheumatism, 1 F.; chronic sore throat, 1 F.; insomnia, 6 F.; Bright's disease, 2 M., 2 F.; consumption, 1 F.

On the other side the following diseases developed, as reported in the returns. Spinal trouble, 3 F.; rheumatism, 1 F.; heart trouble, 2 F.; stomach trouble, 3 M., 15 F.; headache, 3 M., 19 F.; bad eyes, 4 M., 19 F.; nervousness, 1 M., 18 F.; bad dreams, 1 M., 9 F. The cases of Bright's disease were perhaps not genuine yet good physicians pronounced them so. Albumen often occurs in the urine in large quantities and may be mistaken for other difficulties though there may be no deep-seated disease.

The case of consumption is a remarkable one, of a girl in a wealthy family, pronounced by the best specialists in New York City to be beyond the hope of recovery. She went to a faith-cure doctor and fully recovered. The case is perfectly authentic and the parties are well known. The excitement and partial convulsion at the time of treatment, and her own faith, might have set free processes hitherto checked from development and the recovery came as a matter of rapid growth.

These cases show probably that experts may be mistaken in adolescent symptoms of disease and that the life forces will often push up and surmount the most alarming obstacles. It will be noticed how the appetite changes. 91 mention it. There is a physiological reason for it in the new growth and new demands from the system. It shows that the adolescent needs a large variety of food. It is painful to notice how many suffer terrible headaches from defective eyes and only find it out in the last years of school. It is a great cause of suffering and often prevents all school work.

A few cases will suffice to show the character of the returns on health.

F., 26. General health always poor. I never had but one full year of school (because of health). I found out this winter that my eyes made my headaches and glasses have cured them. The doctor says I should have worn them since I had the measles at 12.

[1] See Clouston, "Mental Diseases," and "Neuroses of Development." Also Langdon Down, "Mental Affections of Childhood and Youth."

F., 23. I had headaches caused by my eyes. Was very nervous. Nervousness increased the last year at school and I began to have hysterical attacks, laughing and crying without cause. These lasted over a year. Glasses corrected this very much.

F., 20. Health is not so good. Eyes, nerves, head and back. Got my growth at 13. Growth in height was accompanied by poor health. Puberty at about 14.

F., 30. I was thought delicate in early childhood, but at 14 I was robust, and at 20 hardly knew what pain or sickness meant.

F., 17. I was sick very much before 12. Had bronchitis and pleurisy for a whole year. Nervous at 13. Since then health good.

F., 20. Had gout at 15. Double curvature of the spine at 16. I was treated for it and cured. The right leg suddenly became much shorter than the other. I wore a high shoe for two and a half years. My back is straight but weak. My leg is all right but eyes trouble me. Until 19 I always had horrible dreams. I was going somewhere naked, or I dreamed of worms or dead persons. Now I dream of people I love.

F., 19. From 2 to 10 puny and lived wholly on milk. 10 to 16 appetite and health good. Since then I have had spells of nervousness and indigestion.

F., 19. Very small and nervous as a child. Health better since the beginning of this period. Outgrown sick headaches, etc.

M., 16. From 12 to 15 I suffered from headache and deranged stomach. Health not good. It is better now and I am growing fastest of my life. Puberty at 15.

F., 24. At the age of twelve had very poor health. From that time on I improved and since 15 have had perfect health.

F., 18. As a child always sick. At 12 I became a new person.

F., 18. Health much improved. Had weak eyes, now cured.

F., 19. Health better since puberty. I dream more but appetite much better. Grew tall fastest 11 to 13. Health very poor then. Had chorea at that time. Puberty at 13.

M., 18. Health good. My dreams as a child were horrible, such as falling from the sky down some deep chasm or chased by some animal. My appetite has undergone a great change. I like what I formerly disliked generally.

F., 17. Grew most rapidly from 12 to 14 in height and weight. This was a time of better health. My eyes grew stronger, I slept better, ate more, took more exercise out of doors and went to school regularly, while before I was at home a third of the time.

F., 19. When a child I was fond of all sweet things. Have changed and now I am fond of pure lemon juice.

F., 17. Health has been good for the past four years. Appetite changeable and I dream horridly.

F., 24. From 15 to 20 I had a strong repulsion to meat in any form.

M., 20. Health good but appetite changed. Things I used to like I cannot eat now.

F., 22. Since 12 I cannot eat turnip, cabbage, parsnips or bear the sight of apples or pears, of which I was very fond as a child at 6 or 8.

The question concerning changes in strength, activity and functions was not answered so definitely as some of the questions, but brought out two things clearly. One, everybody perhaps knows, that the muscles grow large first and strength comes later. The boy of 16 or 17, though equal in weight and all measurements of muscles to his brother of 20 or 21, is no match for him in a hard contest. Work and activity may be

demanded of a full-grown boy of 15 to 17 that should not be expected of him, and in fact which he cannot do without injury, since he lacks the strength he seems to have, or might be thought to have, from his size. The other point was the intense interest that girls take in gymnastics, judging from their own free statements. Anthropometrical statistics are now gathered so carefully in colleges for both sexes that farther study of this point can easily be made from these records.

F., 17. I want exercise. If I have it I feel as though I had made myself so much stronger and can work with a much better spirit.

M., 21. Increased in total strength by anthropometrical measurements from 417 Freshman year to 736 Senior year. Especial increase in arms, legs and lungs. That is, strength almost doubled from 17 to 21.

F., 19. I enjoy athletic games and out-of-door sports much more, and my love for work has increased, especially active work.

M., 26. From 13 to 16 I was most enthusiastic in athletic sports. Made sleds, coasted on a scooter, made snow-shoes, made other implements that took days of time, hunted, swam, gathered birds' eggs, played base ball, foot-ball, wrestled on stilts, captured and tamed flying, red, and ground squirrels. Played chess all the time for a while. All this with an enthusiasm unknown before or since.

F., 17. I have gained great strength in my shoulders and forearm in the last five years. I am fond of all kinds of sports, such as swimming, rowing, dancing.

F., 17. I am much stronger in all parts of my body. I play tennis and basket-ball a great deal.

Changes of Form and Feature. Did chin, nose, cheek-bone, brow, chest, hair, and other features change, and how? Was there a different facial expression? New resemblances? To whom?

There were 204 returns. 194—43 M., 151 F., gave changes of features. 10 said no change. Change of features is so common as the boy takes on the features of the man or the girl those of the woman that little is thought of it. There is a deep significance, however, underlying this change. The question of heredity is involved. In many cases there is a reversal of the type, the child showing at first the features and activities of one side of the house and later those of the other.[1]

In all the many details of child-study there seems to be no notice of the fact that the growing child passes ancestral stages of inherited physical features. A boy of 7 illustrates the point. As a babe he looked like his mother. At 2 to 3 he was the childish image of her mother, while in the way he stood and in a peculiarity of falling he showed their traits. Since 5 or 6 he has grown to look very much as his father did at that age, and a photograph of the father taken when he was 7 is a good like-

[1] On change of features see West, "The Growth of the Breadth of the Face." Science, Vol. XVIII, p. 10–11. Also "Growth of the Body, Head and Face," (West) Science, Vol. XXI, p. 2–4. See Cope, "Origin of the Fittest," pp. 281–293.

ness of the boy at 7. He now walks and acts like his father. He will undoubtedly look like the father and the father's family. The explanation is this. Coming from the ancestral stocks on both sides are prepotencies which tend to reproduce their own types. The child of two strongly contrasted nationalities or families may not look like either or may follow one type or the other very closely.

The maternal type has certain prepotencies which struggle to maintain themselves. If they conquer before birth or from the start the child will resemble the mother. The same is true of the father. Now if they are closely matched in power there may be a destruction of both types beyond recognition or one may lead till the force of its prepotencies is exhausted, when the other, having gained strength because kept in the background, comes forward, perhaps to lead and decide the final type of features.

This final struggle and opportunity to establish the type comes at adolescence. A discussion of the meaning of this change of features will be given in the conclusion.

151 report a change of features to new resemblances. 20 M., 33 F., come to look like father, and 15 more girls develop features like a paternal uncle, aunt or grandfather. 83—8 M., 58 F., came to look like the mother, plus 14 F., who look like maternal aunt, grandmother, cousin or uncle.

M., 18. My chin has become more angular, cheek bones more prominent, brow not so smooth, chest increased, hair darker, nose sharp and prominent. As a boy I looked like my father but now more and more like my mother.

F., 19. Chin and cheek bones more prominent. Forehead fuller, hair darker, expression firm instead of babyish. I used to look like papa but now I look like mamma.

F., 18. My chin was sharp till 16 when it grew rounder. Nose same, cheek bones not so high, hair darker. I used to look like papa now like mamma. A stranger knew me lately for I looked so much like my mother to her.

F., 20. My face has changed from a round to an oval. Nose does not turn up so much, hair not so low on the forehead. As a child I looked like my father but now like my mother.

F., 22. My features have changed very much. I used to have a long, narrow face and every one said I resembled my mother. Now my face is round and all say I resemble my father.

F., 20. Formerly I resembled my father. Then I came to resemble my mother, who has an entirely different form of face.

F., 18. Chin longer, nose does not turn up as much, cheek bones more prominent, hair darker, look more like father.

F., 18. Features have changed a good deal. Nose from almost a pug has become a slight Roman. Did look like my father now like my mother.

F., 23. In appearance I have changed remarkably. One side of my face is now very much like my mother's while the other side is strongly like my father's. In form and build I am more like my father's mother and his family.

F., 17. Since 15 have resembled my mother, before that looked like no one in the family.

F., 18. My nose became higher on the bridge. My cheek bones more prominent, brow furrowed, hair darker, upper teeth larger and more prominent. Changed from resembling my father to a cousin on my mother's side.

M., 21. I am coming to resemble my father in every way of manner, form and feature.

F., 17. As a child was the image of my father. At 12 I began to look like my mother. The resemblance was the cause of frequent remark.

F., 19. My chin has become more pointed, nose has changed to a Roman nose, my cheek bones are more prominent, brow more convex and whole facial expression has changed. Have come to resemble my father.

F., 18. Chin longer and broader, nose was flat but now thin and pointed, brow broader, chest fuller and higher, hair darker, eyes lighter. I have changed to look like my mother and her brother. When a child all my features except my eyes were like my father's.

Closely allied to change of features is the cropping out of ancestral traits. Many returns show that where the features are reported as changing to resemble those of either parent or family there were traits developed like that side of the house. The question on ancestral traits was a minor one at the close of the long syllabus and not answered by many. Those received are suggestive of a wealth of material that may be collected along that line of research. A few cases will show the character of those returns. Over 50 were received.

F., 18. I have become more dreamy and have a habit of biting my finger nails as my mother, grandmother and two cousins do.

F., 17. Have many traits like father and grandfather.

F., 17. Given to day-dreams and have traits like my father. (She is one who spoke of features changing to look like her father.)

F., 18. Came to look like her father. Developed many traits like her father's family.

F., 18. From a little child she unconsciously added "e" to certain words, and was always obliged to overlook her writing to erase the unnecessary letter. This was exactly her maternal grandmother's experience in her girlhood, a trick which neither of them overcame till adult life.

F., 19. Ancestral traits have appeared. In my manner when angry, in keeping family relics and tracing family pedigree I am like father. I am also a vegetarian as he is.

F., 18. I am stubborn and willful like my Scotch ancestors.

M., 13, 17, and 24. (Reported by the mother.) There is a very decided outcrop of ancestral ways in each of these boys—physical peculiarities from their father's side as regards a tendency to nervous dyspepsia, voice, gesture, gait, etc. The youngest son is a second edition of his father. The boys have the same difficulty over spelling the same words that their father puzzled over, and even to this day misspells in hurried writing. Our oldest boy when small would, on going about, feel impelled to retrace his exact steps and return to the spot from which he had started even when in haste to reach his destination. This little trick was forgotten by 13. It belonged to the paternal grandmother and maternal uncle.

One question of the syllabus asked for changes of voice and coincident details. 111 persons gave definite answers. 103—43 M., 60 F., said the voice changed and gave details. 8—2 M., 6 F., said there was no change. Careless observers have not noticed the change of voice in girls, but it is quite as real as in boys. A girl's voice grows richer in tone but loses that quality in later life. The age at which the change of voice is reported by girls ranges from 12 to 17 as follows: 1, 13, 18, 11, 4, 2. That is, the most frequent years are 13, 14 and 15. The curve culminates a half year later than the curve for the time of puberty.

The age at which the voice changed in boys is reported from 12 to 18, with these numbers for each year, respectively, 6, 7, 8, 13, 10, 2, 1.

The largest number occurs thus at 14, 15 and 16. This is very near to the time given for puberty in the returns of boys. Since both are due to physical growth and are definite signs of physical maturity, they might be expected to fall near together. There was almost no one who reported any definite treatment of the voice during the period of change.

F., 18. Voice changed at 15. At first I could sing lower, then higher and finally only medium in height.

F., 16. Voice changed at 13. Became deeper and softer. No training.

F., 17. Voice changed at 13. Much lower in tone. Unable to sing and stopped.

M., 17. Voice began to change at 15. At a certain key it would break into a deeper pitch. No treatment. Fully settled at 16.

F., 18. Voice became stronger and deeper at 13, sweeter at 16.

M., 21. I sang tenor at 14. At 15 my voice was broken and I could not sing at all. It slowly developed into a deep bass.

F., 18. Voice changed at 12. It became squeaky and variable, then deep and I sang bass with the boys and about ruined it.

F., 17. Voice changed at 15. Was squeaky and odd.

F., 20. At 12 my voice would crack if I attempted to sing high. I gave up singing entirely. My voice is now lower in compass.

F., 20. My voice began to change at 14. I was treated by an Italian music teacher who gave me exercises in breathing.

F., 18. Voice changed at 13. Began in the upper register and went downward. Vocal training was kept up but the voice was not strained. The change lasted two years.

Another question asked for the age of the first signs of puberty with coincident physical and mental changes. This cannot so easily be determined in males but the answers were given with a wholesome frankness which shows that the taboo is off with people of good sense. False modesty about vital matters is fast going out of fashion as these replies indicate. 133—35 M., 78 F., answered the question. The girls gave the time of the first menses and the boys gave various indications that seemed to be conclusive.

The ages for males range from 12 to 18, as follows: 3, 8, 22,

13, 8, 0, 1. The average is 14.3 years. The largest number at 14. The girls range from 10 to 19. The number at each year was as follows: 2, 4, 8, 23, 22, 13, 4, 1, 0, 1. 13 and 14 have by far the largest number. The average is 13.6. These make a small contribution to the number of American cases previously reported. Roberts [1] finds 14.8 years as the average age of puberty of 575 American girls.

Dr. Kennedy [2] gives 13.7 years in the case of 125 American girls. Since the time of puberty varies with races who congregate in certain localities and is earlier in cities, the time varies for different places but the average is not far from 14.

The time of puberty for boys is usually given as about two years later than that of girls. The evidence so far received from comparative biology and from anthropology does not seem to me to justify this inference. These returns show about half a year's difference.[3]

In larger animals the male gains the reproductory function before the female, usually. With men the power of reproduction may exist some years before it is known. The signs of puberty given by males in these returns indicate full maturity at 14.3 years. Details cannot be given here but indicate that the reproductory function is present before discovered. Biérent thinks that nubility follows soon after puberty.

F., 22. Puberty at 19. I had reached my full height but was slender and unshaped. My skin was much broken out. After this I grew stouter, skin cleared up and bust developed.

F., 17. Puberty at 13. Modest, and blushed at everything. More nervous and timid.

F., 17. I experienced the first signs of puberty at 11. I was ashamed to go on the street for I thought every one would know about it. I asked my mother if people could not tell by my movements. I refused to go anywhere in this condition. I was much frightened the first time and did not tell my mother. It was several days before she found it out. I was ashamed to tell her. (Several cases like this.)

F., 24. Puberty at 12. At first a feeling of rebellion and then of responsibility. I felt older at first,—it wore off.

M., 26. Emissions began at 12.

F., 17. Puberty at 14. My form rounded out, complexion cleared, general health improved. I had a greater feeling of modesty and was somewhat nervous.

M., 27. Puberty came at 14. The whole time to 20 was a nervous and unstable period.

M. My first signs of puberty were dreams and phenomena in sleep two or three years before any marked external changes.

M. Was surprised at 14 by copious emissions.

F., 18. Puberty at 14.5. I changed in form, features, strength, appetite and health. Became more modest in my plays at school.

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[1] "Physical Maturity of Women."

[2] Helen P. Kennedy, M. D., PEDAGOGICAL SEMINARY, June, 1896.

[3] See Biérent, "La Puberté," pp. 21-70, for good discussion of the time of puberty and nubility.

Nervousness and blushing accompanied the change. I think I am less bashful.

M. Puberty at 14. Growth of pubic hair and organs. Later hair under the arms, and beard. More modest and nervous.

II. Mental Changes.

Senses and Thought. Are the senses keener, wider ranged? More engrossing? Is there a change from sense to thought; from the present to the future; the near to the far? What new *ideals*, abstract or personal?

225 returns to this section were received. 197—59 M., 138 F., say the senses are keener and wider ranged. 28—9 M., 19 F., think the senses are not keener, or are not certain about it. The first thought was that the apperception becoming wider ranged made the senses seem keener, as in the case of one girl who heard the church bell three miles away for the first time at 13 and since then almost every Sunday.

There is reason to think that the sense of touch is keener, since sex and touch are closely related. All of the other senses are modifications of the sense of touch. Czermak[1] following Weber concludes that children have a more acute space-sense than grown people since the sensory circles are smaller in children. Wundt[2] assumes it as proved that the sensory circles are smaller in children, but remarks that the number of nerve fibers does not change much, so that as the surface of the body increases in size the sensory circles must be larger to include the same number. Czermak's conclusion that children have a keener sense of touch is therefore not proved.

There may be an emotional accompaniment in adolescence which produces a keener effect from the same stimulus and thus amounts to a keener sense.

A few give experimental data on which they base the conclusion that the senses are keener. There are no data which cover a long period of years with the same individuals.

It is a matter of common observation that women depend much on the feeling of the hand of the persons to whom they are introduced to tell whether they like them or not. This use of touch is a racial development that has played an important rôle in history. We may trace some of our likes or dislikes to this cause.

Whatever appeals to the senses at this period passes over into meditation as never before. The life up to this point has been spent in the realm of the senses. It now awakens to a world of thought. The change may be very sudden and definitely marked. Thought in childhood deals more with isolated objects.

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[1] Schriften I, 1. p. 305.
[2] Physiologische Psychologie II, p. 15 d.

In adolescence there is grouping of ideas and combinations never experienced before. Many of those sending returns say that life has a new meaning since they discovered the new relations of things.

F., 21. Everything in nature took on a new aspect of beauty at this time and appealed deeply to the senses of sight, sound and smell.

M., 19. Senses are much keener. Eyesight was keenest at 13 as tested by seeing a steeple in the distance. When I am alone my thoughts always go on to the future.

M., 19. Senses are keener, for I can see quicker and farther, smell very acutely and my skin is much more sensitive.

M., 18. My senses are keener, at least I can detect by smell any of the flowers I cultivate. My taste is also keener. Other senses I am not sure of.

F., 20. Senses are keener. I know that touch, temperature and pressure are keener. This by experiment. Can detect difference in pitch that I could not at one time. Smell and taste are "archaic" and not so keen. Sight keener. I see things that I did not notice before.

F., 17. Senses are keener. I see around me many things that I never did before. I take in and appreciate much more. These sensations cause much more thought.

F., 20. Senses are keener and more engrossing. A change from sense to thought. A simple thing will start off a train of thought.

M., 22. Thoughts changed from the near to the far, and to ideals and hero-worship.

F., 17. Senses are keener. Now I always hear the chimes three miles away that I never heard as a child. Touch is keener. I notice if a person's hand is smooth or rough when shaking hands.

172 answered the question regarding ideals. 165—77 M., 88 F., have had ideals, against 7 who say they never had ideals. These are probably mistaken as to the meaning or have forgotten, for "without an ideal man is no longer man." Early adolescence is the special time for the beginning of ideals. They change frequently. One's stage of development can be marked quite accurately by his ideal. The manners and ways of speaking, walking and dressing indicate closely the ideal that the boy or girl is following. Arrest in crude stages is unfortunate and frequent, judging from common observation.

F., 20. My ideal now is a strong character, self-reliant, courageous and sincere, who lives the true Christian life.

F., 40. At 12 I wanted to sing like Jennie Lind.

F., 33. A philanthropic ideal was developed at this time. It was suggested by a book on work among the poor. It became a waking dream in which I indulged every night before sleeping, forcing my eyes to remain open, although they ached from sleepiness. This ideal, then implanted, has never been eradicated.

F., 17. See less, hear more, live more in the future. Had imaginary ideals. First one was tall, slender, light curly hair, blue eyes, pink-and-white complexion, small hands and feet, dainty clothing with much pale blue about it, pretty dancer and graceful manner. Did not care what she had in her head. Now my ideal is an intellectual woman, unmarried, sympathetic, showing her brilliancy on occasion. The

steadfast, true, loving friend. A Christian, a musician, a writer, a housekeeper, a reader, an artist, a singer, a teacher. I care not how she dresses. She should have expressive eyes, dark hair and good features. One who is purified by trial and loses sight of self in others.

F., 19. I have two ideals, one real and one abstract.

M., 19. At 14 my ideal was to tend a soda fountain. At 16, for a year my ideal was to be a lecturer. I liked the idea of travelling and the importance of it.

M., 20. I have had many different ideals, first statesmanship, then the ministry, and now teaching.

F. Had an ideal. Did not try to be like my ideal but to seem like it to others.

F., 17. My ideal is a beautiful Christian character.

M., 18. A few years ago I wanted to be a pugilist and all-around-sport. Now I want to be a lawyer and orator.

M. I made heroes (ideals) of my older male friends.

F., 19. My ideals have been Washington, Savanarola, Socrates and the stoics.

M., 26. Had ideals at this age. Cæsar 8 to 11, then Webster, after conversion at 12, Beecher was my model. I intended to be a greater man than either. At 15 my ideal was an imaginary citizen of the universe.

Ideals awaken longings to be like the ideal. One of the characteristic features of adolescence is the deep longing. In slightly morbid cases like Marie Bashkirtseff, we get the full significance of it. She wanted to be "Cæsar, Augustus, Marcus Aurelius, Nero, Caracalla, Satan, the Pope, or all of them at once."

Here are some healthy cases.

F., 23. At 12 I began to quiet down. I shrank into myself, began to have day-dreams, was often lost in thought, that, although innocent in itself, I was ashamed to tell.

M., 25. Air-castles of all sorts, kinds and descriptions were dwelt upon.

F., 32. Longed for wealth and fame.

F., 18. I had a great longing to do right and to be well thought of.

F., 17. I dreamed of happiness caused by money, which I used to gain the title of philanthropist.

M., 21. I longed for and dreamed of unheard-of things.

F., 19. I have had deep reveries and longing. I often think how happy I should be if I could excel in some one thing I like. I have dreamed of being able and longed to sing like Patti, to play like the old masters, to write like Shakspeare. I have dreamed of going through college and becoming very learned—of becoming a missionary —of being rich and doing much to relieve the poor—to be good. I have longed to possess all virtue, absolute truthfulness and unselfishness.

F., 18. From 14 to 16 it was one of my greatest delights to sit down by the fire in the winter and build air-castles. I imagined myself in all sorts of high positions. It was hard to overcome this habit, but now I have no such tendencies.

F., 18. My longings many times have been intensified, and I have had a much greater tendency to reverie and dreaminess.

We are reminded of Longfellow's "Lost Youth:"

> "The gleams and glooms that dart
> Across the school-boy's brain;
> The song and the silence in the heart
> That in part are prophecies and in part
> Are longings wild and vain."

These ideals, which are attained to in spirit almost at a bound, together with the new rush of ideas and the new soundings in the deep sea of emotion, render it impossible sometimes for the adolescent to talk easily. He feels important. In imagination he addresses large audiences or delights the circle in conversation. He feels even more keenly what the mature person feels, but when he comes to talk his motor apparatus has not acquired facility. Acquiring speech is a long process. A new life calls for new speech. It must be acquired often with painfully awkward effort.

The speech center and connected processes are easily thrown out of function by a nervous disturbance. The second dentition sometimes deprives the child of the power of speech[1] and they must learn it again, or it may cause stammering. Anger sometimes renders speech impossible. Deep emotion has a similar effect and enters as a prominent factor into this adolescent difficulty. It may be that in this dumb, bound feeling, we have another phase of nervous inhibition, since many nervous diseases are clearly associated with this period.[2]

Language. Was it harder or easier to express one's self, and was there a dumb, bound feeling? Was truth-telling harder or easier?

There were 346 answers. 262—72 M., 190 F., have experienced this difficulty. 82—27 M., 57 F., never suffered for want of words.

As to truth-telling, some found truth a necessity. The slightest deviation was painful. Some found it very hard at this period to tell the truth.

M. Not easy to tell the truth. Great imagination and desire to make a good story.

M., 21. From a confident singer and speaker as a child, I became very diffident and have hardly yet gained much power of expression.

M., 18. Find it much harder to express my thought, especially if it is something I feel deeply. Truth-telling harder.

F., 23. If a little embarassed at 13 I found it almost impossible to talk.

F., 32. I have suffered much from that dumb feeling. I have a nervous dread of losing the words I want to say.

F., 17. Harder to express myself, especially if I feel deeply, then I cannot express it at all.

F., 28. Seems harder for me to express myself in words than ever,

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[1] Langdon Down, op. cit.

[2] Cf. Clouston, op. cit.

for I hear others talk well and in trying to choose my language I find that the right words will not come at the right time. I do not want to use my baby language and so find it hard to say what I want to. If I used my old language I could say it easily.

M., 26. It was harder to express myself. Could this be from my using my receptive, rather than reproductive powers during adolescence?

F., 20. I have found it harder to express myself. That is, I have far more thoughts but cannot readily put them into words. The thought seems ready to burst forth, but the words will not come.

F., 19. Since 12 I have had a difficulty in getting the right word and so stumble in speech. It is a motor difficulty.

M., About 12 I had feelings too deep for me to express.

F., 17. The dumb-bound feeling expresses my condition exactly. This is true especially when I feel that a thing is so.

F., 17. At 11, when asked to describe Valley Forge, I had seen so much and had so few words, I could make but few statements about what I had seen.

M. I never can express myself easily, and at this time I did not want to express my thoughts to any one unless it was to a dog or horse.

M., 17. Very difficult to think and speak at the same time. Came to feel dumb-bound. Truth-telling always easy.

M., 21. Hard to express myself when with those who are not in sympathy with me.

M., 19. I find it hard to use good grammar when with my superiors.

F., 40. Felt dumb over the enjoyment of out-door life.

F., 28. From 12 to 18 I was fluent and never failed for a word. Criticism at 18 for use of language made me conscious and stumbling.

F., 32. Always a gift of gab—no dumb-bound feeling for me.

F., 21. Always easy to express myself. 10 to 12 a bad habit of lying. Very hard to break it. Tempted at times now.

M., 22. Expression became easier. Truth-telling was a kind of increasing necessity with an aversion to exaggeration.

Future. Were careers, plans, vocations, trades, etc., dwelt upon?

There were 462 returns. 369—167 M., 202 F., have planned the future, while 93—81 M., and 12 F., have not.

Closely connected with the widening of apperception, with the rush of new ideas, longings, and change of thought from near to far and change of ideals, is the tendency to plan the future. It is so common as to demand only numerical mention here and a few illustrations.

F., 18. As a child I dreamed much of the future. Wanted to be a musician, elocutionist, artist, milliner, book-keeper, dress-maker and a school teacher. Have often desired to be as beautiful in character as Christ himself.

F., 24. One of the greatest pleasures of my life has been to make plans and map out an ideal career.

F., 20. Planned to teach in early childhood. At 13 I began to declare it, and after much discussion my wish was granted, and I began to prepare for it, to my great delight.

M., 50. Nothing is more intense and vivid than my plans for the future. One scene. A high hill with bald summit. Had been blamed for something and went to that peak. Alone there I had a very deep and never-to-be-forgotten experience. I paced back and forth and said:

"Now I will, I WILL, make people like me, and I WILL do something in the world." I called everything to witness my vow.

F., 23. My plans for the future were all for literary fame. School aroused my ambition and for three successive years I took essay prizes.

M., 18. I look to the future. Think of myself as teaching, reading law, at the bar, in the legislature, an active speaker always taking the side of right and denouncing wrong. I have had many ideals, one to be a minister.

F., 19. I often think of the future and wonder what it has in store for me. I sometimes wish that ten years would pass in a night.

M., 19. Planned his future and painted it with the tints of the seashell.

F., 19. In mind I have planned the first day of school and gone through it many, many times. At one time I wanted to be a trained nurse. I pictured myself among the patients and how I would act in an operation. Then how I would study abroad and get a fine position.

Home. Did the attractiveness of home diminish, and was there a tendency to be out, go far away, strike out for self, seek new associations and friends? Should home be left part of the time?

Parents and Family. Did parental influence decline? How differently were father and mother, brother, sister, and other relatives regarded? Parental authority, punishments?

School. Was there a disposition to leave school, change studies, or teachers, defy authority, or to *feel* more deeply studies, punishments and discipline?

403 answered the question regarding home. 253—153 M., 100 F., had a desire to leave home and strike out for themselves or found home less attractive. 150—29 M., 121 F., had no desire to leave home.

107 thought that home should be left a part of the time, 20 thought it should not.

As to parents and family, 281 replied. 99—33 M., 66 F., said parental influence did decline, while 181—35 M., 146 F., found their parents just as dear and obeyed them as readily as in childhood.

100—32 M., 68 F., felt a disposition to leave school or did leave for awhile during this period. 192—98 M., 94 F., had no such feeling.

It must be borne in mind that these returns were mostly from Normal School, High School, Academy and College students, a majority of whom were away from home when they wrote.

75—34 M., 41 F., rebelled against the authority of home or school, during the adolescent years.

74—15 M., 59 F., say that punishment was felt much more deeply. 18—9 M., 9 F., experienced no change.

This gives a very true picture of the feeling of young people toward home, school, and authority at this period of life, because the answers were given under conditions allowing free speech and favoring home, parents and school. It is a very forcible illustration of the fact that a boy or girl from 12 to 18 is fully

conscious of personality and the rights of individual recognition.

This feeling that home is shut in and the desire to get away and travel, to see for one's self and form new associations, is an instinct as old as the race and common to all animal life. It is like the migratory instinct of birds. It may spring up suddenly with the most obedient and well bred children. It is not a sign of degeneration or of less love for the home or parents. It is often associated with the most intense love of home and family.

The feeling is strongest at 16 to 18 or about the time of the final approach of maturity.

The sudden feeling of rebellion against authority, which often surprises the child as much as the parent, is another instinctive habit of the race. These crop out in the best children, sometimes with a violence that shocks everybody.

It is not necessarily a bad sign, unless frequently repeated. The desire to leave school, together with the desire to leave home, is a true and natural impulse to adjust himself to the life which he is already living in his imagination in company with his ideals.

Sympathy, not punishment, is the proper corrective.

F., 20. Home not so attractive. Wanted to be away to care for myself. Always rebelled against punishment. Never wanted to leave school.

F., 19. I think that home should be left, for it makes one appreciate it. Home influence has not declined for me, but influence of parents has declined.

F., 18. I love my home, but have times when I want to go away and try for myself. Love my parents more. Often tired of school.

F., 20. Had a strong desire to leave home, but now would like to go back. Love parents more. Have once or twice felt defiant toward the authorities at school.

F., 17. Home not changed. Want to leave for a short time. Influence of parents declined. Have short times that I want to leave school.

M., 19. Rebelled against home and his father's authority. He was eager for school, but was forced to leave because he never knew his lessons, though easily superior in ability. His conduct was willful and positively unendurable at times.

F., 17. I grew very restless at home. When away from home I feel as if I could be perfectly happy at home.

F., 16. I did not love my father or mother till about 13. I thought them nice. I feel more deeply all reproof and have had times when I wanted to leave school.

F., 18. Home more attractive. Parents' influence stronger but they do not command at all.

M., 27. Attractiveness of home diminished. Had times that I wanted to leave school. Often wanted to defy authority. Crave sympathy.

F., 19. I used to be extravagantly fond of travel, now I don't care.

F., 17. Home is very dear, but I left it last year to strike out for myself.

F., 24. I defied the teacher's authority at 13 and left the room.

F., 18. Have defied authority at school and felt a secret pleasure in so doing. Often wanted to leave school. I craved sympathy.

F., 21. Want to be at home, but have new friends. I like to be under authority. I crave sympathy.

F., 19. At 14 I wanted to leave school and did so. Was out for six months and then went back with a new zeal.

F., 20. At 14 had a great desire to break all rules of school simply because they were rules.

F., 17. At 13 to 14 I wanted to go somewhere all the time. Home lost its attraction. I resented punishment and felt that I was not a child any more. At 14 I was tired of my teachers, studies, discipline, in fact tired of everything connected with my school life. (Now in Normal School.)

F., 19. I have at times felt like defying the authority of the teacher from 12 to 16. Yesterday morning in chapel I had an impulse to rise and tell the speaker to be still. The thought of the disgrace that would follow frightened me so that I hardly dared breathe. I do not know why I felt so, for I respect the person highly.

Closely associated with this desire to rebel against home and school is the spirit of leadership. 171 very brief replies were given, mostly monosyllabic. It is a noticeable fact that a large majority of those who express no desire for leadership are girls. Many of them said they much preferred to be led.

81 M., 55 F., developed a spirit of leadership at puberty. 3 M. and 31 F. preferred to follow. The subject may be seen much more distinctly in the chapter on biography.

The success and buzz of organizations in the hands of the young people themselves illustrate this spirit of leadership in active operation.

F., 25. Leadership and independence unusually strong, but not a favorite with my fellows.

M., 18. Was very timid as a child. Now I like prominent parts in games or work. I never used to want to lead. Now I do not want to follow.

F., 19. I used to like to lead, but now I rather be led.

M., 27. I had at 14 a distinct spirit of leadership, again at 20.

M., 21. Independent and fond of leadership.

M., 21. Since 12 I have felt independent and would rather lead than follow.

F., 23. Strong desire for leadership, while previous to adolescence I was very dependent and willing to be led.

F., 17. Before 12 always a leader. The girls asked me if they might play. Now I just as soon some one else would lead.

F., 21. Became more independent, but had streaks when I would like to lean on some one else.

Friends. Were there associations with older or younger; confidences, sympathies, cronies? Were friendships changed, deeper?

369 answered the questions. Of these 69 M., 158 F., total 227 sought the companionship of friends older than themselves. 51—10 M., 41 F., sought younger friends, leaving 91 who choose companions of their own age. 75 per cent. of adoles-

cents seek the companionship of those considerably younger or older than themselves.

The reason for this is sometimes given in the answers themselves, but often left to be inferred. One reason is a desire for sympathy and escape from the merciless teasing which they are so apt to get from those of their own age. This love of sympathy may account for many cases where boys in their teens have married women 10 to 15 years older than themselves. Another great reason for seeking companions older than themselves is the great desire to find out things about themselves and the relation of the sexes and facts about reproduction and other matters which are usually kept so carefully guarded from young people. Older people often speak more freely of these subjects and often drop a word which is eagerly caught up by the adolescent. It is a silent way of begging for information often unjustly withheld.

100 answered the question whether friendships were deeper or not, 96 saying yes and 4 no.

M., 20. Associations with older people. Do not crave sympathy, do not want any one to sympathize with me.

M., 19. I seek older associates because I can learn more from them.

M., 22. Best friends older. Don't like girls as well as married women, for the latter are more sympathetic.

F., 16. I crave sympathy and have older friends.

M., 21. I have great attraction toward older people, especially ladies over 30.

F., 17. All my friends are older, my best friend 4 years older. I crave sympathy and feel that the teachers might realize that we are far away from home.

F., 33. Companions older. I was more interested in my father's conversation with other men, and my mother and sister were much more entertaining to me when they were talking to their friends.

F., 18. I would rather associate with young people, unless the older people were talking about things I had no business to hear, then I preferred their company.

M., 16. Like older friends best. Love a girl of 23.

M., 36. At 13 my friends were women much older than myself. After 13 I cared more for men 10 or 15 years older than myself.

F., 19. I have always associated with older people. At 14 I thought more of the young ladies than the girls my own age. Many of my friends are ten years older than myself. I am rarely confidential, but every one confides in me. I never ask for these secrets. I am very sympathetic, often highly sensitive to the joys and sorrows of any one I like. I sometimes feel my friends' troubles more than my own. At other times my lack of sympathy is almost brutal. I am no actress and cannot feign what I do not feel. When it comes to real friendship I prefer men to women. They are more honest, broad-minded, generous, open, original in their opinions, ready to help when needed, appreciative, far more worthy to be trusted. I am an American. I am the oldest child, have studied psychology and know the meaning of these questions; am white, a Christian and a Protestant.

Love. How did feelings about the other sex change? Was a real

person first loved? Was the person older, idealized, how long did the affection last, how shown? Describe later loves.

This section was not very fully answered. 91 have frankly answered the questions. Of these 69—28 M., 41 F., have been in love before the age of 25. 22—11 of each sex, have had no love experiences. These answers were from young people from 16 to 25. 9—2 M., 7 F., have loved purely imaginary characters, and 49—3 M., 46 F., speak of passionate love for the same sex.

Any complete study of adolescence must needs deal with this subject, yet here it can have but a brief treatment. It is not an essential characteristic of adolescent psychology, but it is the time in life when it is natural for the sexes to be attracted to each other and to begin those attachments which ripen into love and marriage which forms the foundation for all that is pure and noble in our home and social life.

With well-balanced boys and girls the matter of love will come in its own good time and place. The mating instinct is strong, however, and will assert itself. The only danger is precocity. After the judgment and character are well formed there is little danger from this noble passion.

The love of imaginary persons is somewhat striking, but only shows that some one, oftentimes, must be loved at this period.

The love of the same sex is not generally known, but is very common. Without solicitation 49 cases have been reported. It is not mere friendship. The love is strong, real and passionate.

Many of the answers to the syllabus are so beautiful that if they could be printed in full no comment would be necessary.

F., 21. I had an ideal lover, older than myself, it still continues. Never changed regarding the opposite sex, always had a hatred of men.

M., 19. My first love was an ideal person. Did not last long.

F., 37. My first love was an ideal character and much older than myself.

F., 23. I fell deeply in love with a teacher at 17. I adored her and could not tell her that I liked her. I choked if I tried to. I lost that love quickly and for a very slight cause.

M., 21. A real person was desperately loved for the space of three months at nine. A second love came at 15. The affection was shown by personal declaration on both sides. She left town, when I am ashamed to say my devotion gasped once or twice and expired. Since then I have twice been desperately in love.

F., 33. At 14 I had my first case of love, but it was with a girl. It was insane, intense love, had the same quality and sensations as my first love with a man at 18. In neither case was the object idealized. I was perfectly aware of their faults, nevertheless my whole being was lost, immersed in their existence. The first lasted two years, the second seven years. No love has since been so intense, but now these persons, though living, are no more to me than the veriest stranger.

M., 21. Idealized a girl, love lasted only a few weeks. 2nd case, idealized, love lasted two or three weeks. 3rd, a teacher much older, idealized, lasted several years. 4th case, same age, slightly idealized, lasted a year.

F., 19. At 15 I had a time of writing poetry on love, due to falling in love with an older and superior girl.

M., 50. Then the girl-fever. There were two or three who were my ideal at different times. The first was five years older. "I would have eaten dirt for that girl for a year or two. She never mistrusted it. Never dared speak to her."

F., 19. At 12 I was promoted to a teacher with whom I soon became infatuated. I talked of her from morning to night. Remained after school, etc. From then till 17 I adored some teacher or other all the time. At 17 I was much in love with a girl six or seven years older. I consider such love sin.

F., 24. My first love affair was a very innocent and infantile one. At 15 I spent two months on the Great Lakes The first day I noticed a young man in uniform who somehow interested me. We never got beyond the point of saying good-morning. Toward the end of the time I found myself blushing when he helped me into a boat, and felt my heart beat at the sound of his step overhead when he was watching. The next summer I felt a strong desire to have him love me. The third summer I spent hours every day in thinking up scenes in which he should declare his love to me.

F., 35. Girls between the ages of 14 and 18 at college or girls' schools often fall in love with the same sex. This is not friendship. The loved one is older, more advanced, more charming or beautiful.

When I was a freshman in college I knew at least thirty girls who were in love with a senior. Some sought her because it was the fashion, but I know that my own homage and that of many others was sincere and passionate. I loved her because she was brilliant and utterly indifferent to the love shown her. She was not pretty, though at the time we thought her beautiful. One of her adorers, on being slighted was ill for two weeks. On her return she was speaking to me when the object of our admiration came into the room. The shock was too great and she fainted.

When I reached the senior year I was the recipient of languishing glances, original verses, roses and passionate letters written at midnight and three in the morning.

Selfishness and Altruism. (1) Was there increase of self-indulgence, egoism, self-assertion? (2) More unselfishness, devotion to other persons or causes, with sacrifice of self?

285 answers were received. Of these 214—74 M., 140 F., replied that they were more unselfish and showed devotion to others. 71—26 M., 45 F., said there was a large increase of selfishness. The answers are somewhat unsatisfactory from a scientific standpoint because the young people hesitated to say that they were less selfish. I suspect that many of those who said they were more selfish would not be judged so by others. But some are intensely selfish as the records show. It is only a passing mood and should be outgrown. One case is reported of a boy who was so selfish that the parents and family were deeply concerned about him. The next year he was generous and noble. It is the great period in life for devotion to others

especially in self-sacrificing causes. Pledges, agreements, vows, and other restrictions on one's freedom, are made at this period with a joyous enthusiam.

F., 18. Always unselfish. When mother gave me money to buy clothes I would give it away to some poor child I met on the street.

F., 18. More altruistic. Think selfishness is the meanest thing in the world.

M., 21. At 16 I grew very sympathetic. I feel deeply the trouble of others. My ideal is a pure life ruled by love alone.

F., 20. At 16 I was so altruistic that many times I gave my breakfast to a little girl that came around begging, and did not let my mother know it, and went to school without any.

F., 18. Feel much more selfish than as a child.

F., 17. Selfish by nature but for the last year or two, by thinking a moment, I became generous.

F., 17. I am more self-assertive. I have streaks of being unselfish and the opposite.

F., 24. During this period I have sacrificed my own pleasure to that of others many times. I have often stayed at home to let a younger sister go.

F., 18. I have spells of being purely unselfish.

F., 23. At 16 I became very selfish. I decided that it was no use to deny myself for others and have found it very hard to break the habit.

F., 33. About 16 I felt that I was important enough to be noticed anywhere. My conceit did not last long. I became more unselfish at this age. I began to help my sister which I had never done before. I performed even disagreeable tasks for her.

M., 20. I associated with those who were not good characters to try to bring them to a higher level.

M., 16. Increase of self-indulgence and self-assertion and also often of sacrifice for others.

F., 18. I am more selfish and hate to give up anything that will give me pleasure.

Were there impulses to reform self, others, religion, state, society, etc.?

Out of 149 answers regarding reform, 142—49 M., 93 F., have experienced these impulses. This feeling was very strongly seen in the biography also and is very characteristic of adolescence. The enthusiastic youth takes no account of the difficulties to be surmounted, but single-handed starts out to reform religion, politics, social customs and the wrongs of the laboring classes. The reforms thus achieved furnish a striking chapter in history.

O, would the soul might ever
  Achieve its immortality in youth,
When nothing yet hath damped its high endeavor,
  After the starry energy of truth!
—LOWELL.

Rivalry, jealousy and courage are often intensely displayed and are characteristics of the period.

F., 19. I have spells that I want to start a great reform.

M., 19. Had a great desire to be a leader and political reformer but it is dying out.

F., 19. I often have impulses to reform myself and others socially.

M., 21. My impulses to reform were very many and very strong.

F., 18. I have impulses to reform myself, society and institutions.

F., 18. I am more independent, and at times feel a spirit of rivalry and courage and want to reform self and society.

M., 25. Was independent, full of reverie, jealous and lacked courage at times. Impulses to reform the world and to invent were present.

F., 20. When sick at 17, I felt that I ought to organize a society to look out for tramps. Have felt that I should reform myself too.

F., 16. Strong feelings of jealousy. Impulse to reform.

F., 17. I have had a spirit of rivalry and a desire to reform society.

F., 18. Am very jealous, desire to reform everybody.

M., 19. (African.) Always a leader in spirit, dreamy, jealous, not very courageous, given much to reform of self and others.

Energy and Activity. (1) Were there spells of languor, inertia, laziness of mind or body; sloth in play or study, with great indifference of feeling to work or duty; and (2) spells of unusual activity, zeal, energy, work, interest, etc.?

514—170 M., 344 F., report spells of inertia of mind or body or spells of unusual activity. These show that the spells of energy and activity are affected by the weather, somewhat, but a large majority seem to experience these moods in all kinds of weather. It must have its explanation in the physiological condition at this period. The rapid growth and the unsettled condition of brain and muscle may cause unusual irritation of the motor centers or hyperæmia or anæmia of those centers and thus bring about these fluctuations in activity which in their intense form are distinctly adolescent phenomena. It amounts in many cases almost to cramp of the motor centers, judging by the amount of work some can do without fatigue when these spells are on, and the rapidity of fatigue at other times.

F., 18. At 13 I had spells of languor. Hard to work and it was not well done. Again I can do twice the ordinary labor. Can work all day with no sign of fatigue.

F., 24. At 16 I had such a spell of energy that I took the parlor carpet up, cleaned it, put it down and put all in order alone. Wrote an essay in this mood at 23 and it was criticised as not sounding original.

F., 17. In languid periods I feel as if I should like to lie down and sleep for a week. Again I do distasteful work with a real interest.

F., 16. The summer I was 12 I would stay in bed till noon and then sit around the rest of the day doing nothing. I have spells of activity that last a week, and do unnecessary work.

M., 20. Have had spells of languor. Brain seems totally inactive. Again something pushes me on and I know not how to stop.

F., 18. Spells of inactivity, at other times an overflowing of energy. Then I could accomplish an astonishing amount of work in a short time.

F., 19. At 14 there were times when I had a great loathing of any activity. Again felt like doing heavy work and craved it. I do not notice these spells now.

F., 19. About 17 I had a week that I was so stupid that I did not do any work and would not. That same spring there were three or four days that I could not find enough to do.

F., 17. This year has been characterized by alternate spells of languor and great activity. After working in these languid spells I feel as if I had been through a coffee mill.

F., 17. One time I had a spell of activity and swept and cleaned several rooms. I do not generally do much of such work.

Elation or Depression. (1) Were there spells of despondency, gloom, feeling of unworthiness or sin, with perhaps flitting thoughts of death and suicide? If so, state frankly and confidently the causes, cures, etc. (2) Were there periods of joy, elevation, spontaneous happiness? (3) How were feelings usually modified as to range, intensity, change, direction, etc.? Note especially *anger*, *pride* and *fear*.

766 answers were received on this section. Of these 285—85 M., 200 F., report spells of elation while 10 report no times of unusual elation. 471—237 M., 234 F., report spells of depression. The same 10 individuals who report no elation report also no depression, and generally those who report the one report the other also.

These moods, probably, have the same cause as cases of activity or inertia but are not contemporaneous with those spells. In no case were they so reported. Depression is usually reported as following soon after the period of elation. In only a few cases was it reported as invariably coming first.

Many report the common experience of feeling despondent on awaking, less so after a bath and toilet, cheerful by schooltime and joyful at noon. The returns indicate a close relation between depression or elation and conditions of nutrition. These spells of depression normally cease at the close of the adolescent period. In morbid or pathological cases these fluctuations readily develop into melancholia or mania.

The saddest chapter of this study is associated with these fluctuations of moods. Thoughts of suicide are very common. 13 cases of attempted suicide are reported. 3 were successful in the attempt. Cases may be noted often in the papers. This point will be given farther discussion under the treatment of such cases in the conclusion.

Feelings are reported as being much more intense and wider ranged. Anger and pride are usually intensified, but kept under better control, while fear is usually reported as much less intense, except of a moral nature or fear of some secret disease. This latter fear was common and intense. The curve of despondency starts at 11 and rises steadily and rapidly till 15, and culminates at 17, then falls steadily till 23, where it reaches the base line.

The returns are very full. Space can be given to only a few of the briefer cases.

M., 15. I often have spells of despondency. Can understand a person's committing suicide. I have times of great joy and am pleased with everything.

M., 22. Subject to great extremes till 18. Have thought less often of suicide than before puberty, but very strongly at times. Chief reason for this was that I felt that people I liked, and especially my family, did not like and did not appreciate me.

M., 18. Have spells of great despondency at the thought of not being able to finish my education. I have been on the verge of committing suicide. I am sure I would have done so but for the thought of eternal punishment.

F., 24. From 12 to 16 I was subject to attacks of melancholy and misanthropy. Had a violent repulsion to any human society. An hour or so spent by myself out of doors would usually restore me.

F., 20. From 14 to 19 I had often spells of despondency. I felt very sinful and lonely. Wanted sympathy. This was just after a joyful mood.

F., 19. I have times of feeling very unworthy, with no cause, or when something has occurred to make me very happy. Again it seems as if I could shout for joy, just from the fact that I am living.

F., 17. Spells of despondency, I know not why. All right if I can cry. Feeling of intense joy.

M., 13. A boy came from school and said: "If I have got to get that geography lesson, I will jump into the pond and drown myself." Mother told him to go upstairs and lie down, thinking he needed rest. She followed him soon and found him hung by a rope that he had had there for some time. He was a good boy, fond of work.

Morals and Habits. What new moral motives, temptations, etc., and how were they met? Were there sudden feelings of right and wrong, deeper appreciation of both in self and in others; conscience and moral fears? Was any penance ever self-inflicted? How were dress, manners, etc., modified?

526 answers were received. Of these 240—73 M., 167 F., have experienced sudden moral feelings of right and wrong, against 16 who have not. 226—134 M., 92 F., have had a sudden impulse to correct any untidy appearance in dress, while 44—43 M., 1 F., report no change in dress or manners. The matter of dress seems to be an instinctive desire to irradiate the attention from sex or it may be due largely to the fact that the young person suddenly awakens to a feeling of maturity. Many things in the study indicate that all of the feelings of responsibility, of personality and worth become full-fledged at this time. This may account for the fact that the boy suddenly realizes that his shoes are not blacked, or his coat and hair not brushed, or his collar not of the latest pattern. This change is very noticeable in the grades in school.

There seems to come at this age a great desire to feel smooth. It is no doubt connected with the Roman and Grecian baths and the skin cults of history. Underlying that, is the feeling developed from pre-historic times that any roughness of the skin —as pimples, hair, etc., is a relic of savagery and a conflict with the lower forms of life and the baser elements in one's own nature.

On the moral side there is a new and tremendous access of possibilities. The young person awakens to the fact that

he can commit crimes of which he never dreamed before. There are numerous expressions of intense surprise at the awful thoughts of crime that go rushing through the mind at this time.

The frequency of crime has been noted by Corre.[1]

26—9 M., 17 F., report desperate criminal thoughts which in some cases required all the self-control of the individual to keep him from committing the crime thought of.

Self-inflicted penance for immoral conduct or disobedience or error was often reported. In a few cases it was severe.

F., 17. I have felt more the desire to do right because it is right. Feel indignant toward wrong and wrong-doers.

M., 19. First realized the meaning of "ought" during these years. Became very particular about dress and manners.

M., 32. I remember saying as a child "I will be good or diabolically bad." Extreme it had to be.

F., 20. Have often put upon myself penances for moral actions. I wore things I did not like or went without a favorite dish.

F., 20. Sometimes something suddenly tells me what is right and I feel very uncomfortable if I do not live up to this prompting. I earned money for a bracelet which I wanted very much. But I got angry at my sister, called her names, was sorry, and next day put all the money in the contribution box.

F., 17. I feel more deeply moral conduct. Once as a penance I walked six miles rather than take a ticket. I was dusty and tired on reaching home but felt better for the act.

M., 20. Have had all sorts of bad temptations, and my mother's influence has helped me to overcome them.

F., 20. I feel more that wrong is ineradicable. Can see how hard it is to do right and therefore appreciate it more. I feared at times that I had committed the unpardonable sin.

F., 19. At 13 I had a sudden change of dress. Never cared how I looked before.

F. Act now from a sense of right or wrong. Inflict penance generally by depriving myself of something to eat. At 13 I got into a perfect rage if anything aroused my anger. Now I control it.

M., 35. At 14 illicit desires began to show themselves. Strong temptations were safe-guarded by home training.

F., 20. Anger and pride were both marked at that period.

M., 26. My moral regimen was very severe on self. A Christian had no right to luxuries in dress, food, houses, etc. Refused to eat sauce, pie and cake.

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[1] "Of 7,473 prisoners in France, in 1883, under 21 years of age, there were as follows:

Below 8 years of age					14	boys,	6	girls.
From 8	to	10	years	of age	159	boys,	37	girls.
" 10	"	12	"	"	425	"	117	"
" 12	"	14	"	"	1,214	"	269	"
" 14	"	16	"	"	1,739	"	409	"
" 16	"	18	"	"	1,765	"	385	"
" 18	"	20	"	"	714	"	209	"
Over 20			"	"	3	"	8	"

"Out of 26,000 evil-doers arrested in Paris in one year 16,000 were less than 20 years of age." A. Corre, *Crime and Suicide*, p. 309.

M., 26. Got hold of a lot of quackeries about the danger of emissions, which frightened me almost to death. I thought each was wasting my life and possibilities. This was terrible. I dreaded to go to bed at all. It was a tremendous relief when my brother said he was affected the same way. A doctor told me it was all normal. I had first consulted medical companies, who all tried to make me think my condition was deplorable in the extreme. If ever a set of men deserved to go straight to hell, it is these companies. I often contemplated suicide. I had no friend, was solitary as possible. We need plain instruction or a book which will tell young folks the plain truth about these matters.

M., 25. At 15 great desire to do just right and to help others. My greatest temptation was to give up everything, even my life, but the thought of my mother alone kept me from doing it.

F., 35. I had criminal convictions. I said: "I will not try to do right any more." The realization that it was possible to disobey was a distinct pleasure to me.

F., 33. About 13, while visiting, I was suddenly filled with thoughts of my own wickedness. It spoiled all my pleasure.

M., 21. Criminal thoughts and impulses were more than flitting at times and required all the self-control possible to deal with them. Even that could not eliminate the thoughts.

F., 24. Wanted to strike, kill, destroy and burn.

F., 17. I have a beautiful niece. One day, when she was sleeping, I had a sudden thought that I should like to kill her. It shocked me that I could think of such a thing. It was over in a minute.

M., 27. Had, after 14, a desire to hit some one or do some violent act.

F., 18. Thought of killing my father, mother and self all at the same time. Also of committing suicide. Wondered what the newspapers would say about it.

Religion. (1) Was there more inclination to pray, read scripture, hymns, attend church, confession, prayer meeting, and were there new feelings toward God, Jesus? (2) New inclinations to do duty, bear witness, influence *others* religiously, go on missions? (3) Were there *doubts*, questionings, need of new grounds of faith, or was religious experience desired? All this in full.

598 answer these questions. Of these 518—232 M., 286 F., report new religious inclinations between 12 and 25—mostly 12 to 20, while 80—60 M., 20 F., report no religious emotions.

More than 5 out of 6 have had these religious emotions. This proportion is too small, probably, for those who report no religious interest are mostly repulsed by some creed or dogma. The interest exists aside from the church. The returns show that religion before this age was a mere form. Now it becomes full of meaning. It is a new interest and very many speak of it as a sudden awakening. It is spontaneous, like the interest in art or music, or the love of nature. Where no set forms have been urged, the religious emotion comes forth as naturally as the sun rises. There are many doubts, but they all center around some doctrine insisted on by the church, which contains no religion at all. One does not see her way to be a Christian because she cannot tell which denomination is right.

Another is repulsed by the doctrine of total depravity. Others doubt some phase of common belief. The Christian Endeavor is a good object lesson as to the value of giving adolescents untrammelled opportunity to serve God and perform religious duty.

The missionary spirit is very strong. The desire to travel, to make new and wide acquaintances, to break with present surroundings, to sacrifice self for others, and especially to do all these in a religious cause, appeals with insistent force to the adolescent. A discussion of religious teaching will be given in the pedagogical conclusions.

F., 20. Have become much more religious since 12. Prayer means much more. God seems so real, kind and helpful. The perfect life of Christ is a helpful contrast to the life of men. I have desired to go as a missionary.

M. A marked change in religious thought at 17. I think I was just ready for it, so it came.

M., 21. New religious feelings. Impulse to missionary work. Many doubts, but put them off till I could understand them.

F. At 14 to 15 I became a Christian. I can give no cause for the change. I then seemed to realize for the first time all the truths that had been presented before.

M., 19. Grew suddenly religious in various ways, though not brought up religiously.

F., 18. I feel every year a greater dependence on some higher power. Religious feeling began to deepen and change at 16.

F., 20. At 13 I was very religious and prayed all the time. This all passed away by 15. I began to love God at 14, and about this time joined the church. I loved the service very much. For about six months I had a strong missionary spirit.

M., 21. I could not then and cannot now attend church or Sabbath school. I read the Bible twice each day and pray morning and evening. I look upon life as something glorious and admire all things good and beautiful, but despise to hear men harp on the weakness of humanity. If a preacher deals largely with sublime things, I enjoy it, otherwise not.

F., 18. Not religious. Do not go to church, but pray. Have desired religious experience.

F., 18. At 15 a new feeling toward God. He became a dear Father. I felt unworthy of His love. Felt earnest to work for the salvation of others.

F., 16. Religion was a form till now it has become full of meaning to me.

F., 18. I have had a strong desire to pray since 12. I never tire of praying, it keeps me close to God. My favorite song, "I am a child of a King." Can do nothing without God.

M., 21. Religious feeling deeper than before 12. Stronger inclinations to pray and to do missionary service to the poor. Need new grounds of faith.

F., 17. Since 14 a new religious interest. Have longed to go on missions since 16.

M., 35. Though I had no special reason for it I grew religious. Often alone I melted to tears at the goodness of God. I determined to lead a Christian life, prayed, found great joy, peace and change of life, and all that meant to me.

Nature. Was solitude more often sought and companionship of dogs, horses, pets, communion with trees, forest, sky, clouds, moon, wind, stars; was there greater love of flowers, colors, perfumes, bird songs? How otherwise was feeling toward nature in all her departments affected?

The total number of answers was 702. 640 of these—330 M., 310 F., expressed a real love for some form of nature, while 62—28 M., 34 F., were not fond of nature. Love of nature therefore exceeds everything else reported in these returns. Over 90 per cent. of those answering were lovers of nature.

No one form of nature seemed to predominate, but in all there was a longing to get near to nature in some of her forms. This love of nature in the time of its appearing, and the curve representing it, are almost the same as those of the religious emotions. It is really a religious instinct and the child is finding God through nature. It is a wide-open door to all religious culture.

The returns indicate that adolescents find a delightful and unique sympathy in nature. Nature seems to teach them rest and self-control. They flee to it as a refuge from all the elements that are warring within their own souls. To many it seems to be the very support of life itself. It gives a time for thought and meditation which the awakened soul now demands. Several associate these moments with nature, with divine worship. Others find strength in trees, moral courage in rocks, activity suggested by the waving of trees and running of streams.

The years when the feeling was most prominent range from 6 to 20. But the curve begins to rise rapidly between 11 and 12, culminates at 13, 14 and 15, falls somewhat at 16 and then rapidly till 20.

Record was kept of the animals preferred as pets with the following results:

Total number of votes cast, . . .	230	
	MALE.	FEMALE.
Dog, ...	21	45
Horse, ...	20	32
All pets, . . .	8	31
Cats, ...	8	21
Birds, ...	5	21
Rabbits, . . .	2	3
Squirrels, . . .	2	2
Cattle, ...	4	2
Toads, ...	0	1
Chickens, . . .	1	0
Tame rats, . . .	0	1

Solitude was tabulated separately. 471 answers were received. 307—82 M., 225 F., were fond of solitude during the

years 12 to 20, while 190—133 M., 57 F., were not fond of solitude.

A striking fact is brought to light in returns from reform school boys of 13 to 16 years of age and also in returns from the poorer classes in cities, sent in by teachers. Of the boys in the reform school with over a hundred cases more than 90 per cent. were not fond of solitude. 90 per cent. of the girls also of these lower classes, children of foreign parentage, were not fond of solitude. On the other hand exactly 90 per cent. of the other returns were fond of solitude. The biographies of great men show that they have invariably been fond of solitude. "Talent is perfected in solitude." This would seem to indicate that love of solitude is a good index of mental ability. It shows the presence of a mind capable of entertaining itself.[1]

Disraeli writes:[2] "Solitude is indispensable for literary pursuits. No considerable work has yet been composed but its author, like an ancient magician, retired first to the grove or to the closet to invocate his spirits. Every production of genius must be the production of enthusiasm. When the youth languishes, and feels himself among crowds in an irksome solitude, that is the time for him to go into seclusion and meditation. Where but in solitude can he indulge the fine romances of his soul? Retirement to the frivolous is a vast desert, to the man of genius it is the enchanted garden of Armida."

The curve for solitude is something like that for nature. It ranges from 8 to 25 but begins to rise rapidly from 11 to 12 and culminates at 14 to 15, then falls rapidly and steadily to 20. The intense love of solitude naturally falls thus entirely within the adolescent period.

F., 21. At 13 nature became a real, almost human thing to me. It seemed to respond to a cry for something higher. In the study of it I found sympathy and relief and the germs of higher ideals in the conception of life.

F., 24. I seemed to live through the winter for the sake of the summer when I could return to outdoor life. I felt a passionate attachment to the earth and all things growing on it. I always felt them as a part of my own personality. This was strongest from 8 to 14.

M., 19. Began to like to go out in the woods in rains and storms and to walk alone on very dark nights.

F., 23. One Sunday afternoon, at 14, I stole from the house to the orchard, climbed up into a tree, sat there and dreamed for an hour. I felt as if I wanted to be alone. The same year I was sent through a piece of woods, and found it so beautiful I sat down at the foot of a tree to enjoy it. One night, at 13, I felt a strange thrill of companionship as I gazed at the moon.

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[1] Another interesting item with the boys in this reform school, which occasions all sorts of suggestions, is the fact that they almost invariably dislike dogs.

[2] *Curiosities of Literature*, p. 136.

F., 17. I have spells when I feel that I must be alone. I think of the past and what I will do in the future. Or I watch objects in nature and think of God. I watch the stars appear one by one.

F. When I was about 13 I enjoyed more than all else to be alone in the woods and fields. I spent hours sitting beside a little brook near my home, and sometimes a whole afternoon in the woods, studying the mosses or vines on some knoll under the trees. Liked pets, and my dog was always with me. Liked to study minute plants and see them at different times of the day and note the changes.

M., 35. The love of solitude, that has been sort of a passion with me, began rather suddenly in my sixteenth year. Sunday afternoon I would go to some quiet nook and indulge in semi-religious or philosophic thought for an hour or so. Then the mood would pass rather suddenly and I would return in quite a different state of mind. Ready for a romp by the time I reached home. Preferred to hunt alone. Under the influence of the silent and over-arching trees I felt a strange, light, soothing melancholy. In the early twenties I developed a fondness for twilight walks in which I indulged in philosophic reveries.

F., 18. At 13 I was attached to a horse and would stay with it by the hour. It got lame and was to be sold, but I cried so it was kept. At 14 to 15 I had a great desire to wear flowers every day.

F., 18. At 14 fond of the stars. Liked to sit alone and look at them. They tell me of God. One night, at 15, feeling sad, I wandered to an old bridge and stayed there for hours. The beauty of the hills, the changing lights, the eddying waters, so affected me that I could not contain my feelings any longer, and leaning my head on the bridge I cried. Soon a feeling of peace stole over me and I went home.

F., 18. I have felt that trees, flowers, and birds understood me. Have hugged a tree and almost worshipped the moon. Intense love of colors and perfumes of flowers.

M., 18. Spend whole days alone in the woods. Like to go alone or with my dog, on horseback, in lonely places. Very fond of these two pets. Enjoy communion with trees and nature in general, but not sky, clouds or moon. Loved flowers as a child, but the love has greatly increased. Their purity and form appeal to me now, whereas it was only color. I have the highest ideals and purest thoughts when I am alone in the fields, mountains, or among flowers I have cultivated.

F., 20. From 12 to 14 I went often at sunset to a wood near home to remain through the twilight. I studied the clouds and thought that the obscuration of the stars was a sign that I was evil.

F., 17. There are a few times that I feel that I must be alone. When sad I like the trees for company. They give me a restful feeling. I have a stronger love for flowers and natural scenery.

F., 18. Before 12 I was uneasy if alone. At 13 I began to like to go to the woods alone. We had company once, and I felt so lonely that I left them to be alone.

F., 40. At 9 I felt the charms of nature no words could express. "I had run through the scale of human experience in most ways at 13 and was like an old woman." "Nothing in later life has seemed so beautiful as the mosses on the rocks where my father carried and placed me at six or seven."

M. The beauties of nature have always seemed the chief part of life. Not fond of solitude.

F. Liked solitude about 15. Preferred seclusion from all friends to review the past and plan for the future.

M., 18. I was greatly moved by a beautiful scene in nature at 15. I could not go on to my destination, but stayed there all the forenoon.

F., 21. Since 18 I have loved to be out in nature for the pure enjoy-

ment of it. It is pure delight to lie in the grass and look up in the blue sky, either in its perfect blueness or when fleecy clouds are floating about. Never liked poetry on nature because I had no feeling akin to it.

M., 46. Enjoyed the forests and big rocks. Liked to fish and hunt. Had a resort in the ledges near home. Liked to ramble in the woods near cliffs and streams. Enjoyed a bright landscape in summer, when it seemed alive, moved by a gentle wind. I think I always considered the world as God's world and had some thought of Him.

F., 20. She showed few signs of love for nature except for a horse on which she lavished her maiden love. He was beautiful and gamy. She was allowed to drive him when he was all a good man could handle. He was always kind with her. She spent many, many hours in his stall, combing his mane and foretop, braiding them at night, etc. She sobbed wildly when he was sold.

F., 17. I love the wind, it brings a message from God to his child. If despondent I love to walk alone in the wind, it brings me comfort.

M., 24. Since adolescence I like to be alone often. Nature teaches me such profound lessons. Trees seem so mighty to me.

F., 24. I seek solitude more since 13 and much more since 18. I seek communion with trees, sky and stars. I consider them my dearest friends. The sky consoles me when in trouble.

F. From 12 to 13 I cared for no company but that of nature. I had a seat under an oak tree in a small field surrounded by woods and near a small brook. Every day for nearly two months I would sit there and wonder at the beauty of nature which I had never noticed before. Birds, brook, trees and sky all seemed to be my friends. They soothed me when other things annoyed.

F., 18. There is nothing I like better than to be alone for an uninterrupted time of thinking. I love all nature very much better. I woke up to the fact that everything in nature is beautiful when I was eleven.

F., 21. After 14, when my adolescence began, I had a change of feeling toward nature. I loved to get up early and take long walks alone before breakfast. Liked to watch the moon and stars. Loved flowers and wore a large bunch when I could get them.

F., 34. Grew fond of nature at 19. Sorrow sent me to the trees for sympathy.

F., 27. Ever since I was 12 I have preferred solitude a part of the time. This was strongest at 14 and again at 19.

M., 16. I liked pets, to hunt in the timber, to watch the sky, clouds, stars, or any natural object.

F., 37. When young I loved companionship. As I neared maturity I sought to be alone. Would roam over the prairies or sit dreaming of the mysteries of the sky, heaven and earth or of great possibilities. I dearly loved everything in nature.

F., 19. My feeling for nature grows deeper. For six years I have been passionately fond of the woods, sky and flowers. Am fond of dogs, horses, and pets generally.

F., 18. I find exquisite beauty in all of nature's work. I feel a deeper and increasing love for nature and a helpfulness, too, in it all that I did not know a year ago.

F., 20. Love to sit alone in the twilight and dream. It seems as if the moon and stars could sympathize with me as no one else can. Two years ago I came to love animals. Did not at all before. I have a peculiar sensation when I go into a great wood. It seems as if one were very near some great power, unseen but felt, and even the birds and squirrels seem to have wise thoughts about you. You involuntarily speak to them.

M., 26. I became more fond of solitude. The mystery of the world, the key to unlock it, some holy grail to harmonize me and the world were sought. The open secret of nature seemed just before me but always slipping away. The world was strange and refused to become familiar. I was a wanderer in infinite time and space.

F., 35. At 8 we were in the fields. I can remember the intense sensual pleasure from the sunshine and colors. Then there was an unaccountable, overwhelming perception of beauty that carried me away beyond the point of self-control and I ran to my mother crying, only answering that it was so beautiful. Another time at 15. I was running down a hillside to meet my sister, miles away from any dwelling, in a deep wood. I stopped with a feeling of awe. There came over me that strange, self-annihilating realization of that beauty which my soul at once named God. I felt that I had perceived God. I had been in his presence in a real sense. From that time God and religion, as I used them, had a deep and vital significance.

Art. How, if at all, was feeling for paintings, or pictures generally, affected? Was there more interest or in different kinds? How differently did music affect you? Was it felt more and did taste change? Architecture or drama, etc.? Was an artistic career contemplated?

Art and music were tabulated separately. 472 answers regarding art were received. Of these 361—176 M., 185 F., experienced a new feeling for art in the adolescent period. 136—77 M., 59 F., noticed no change in relation to art.

The returns indicate that 50 to 75 per cent. of young people may have a time when they are deeply moved by the artistic, and the per cent. is very large of those who decide upon an artistic career while this fervor possesses them. This desire usually lasted only a few months or at most a year or two. It is not a sign of unusual artistic ability, but the new, impulsive emotional nature is awakened for the first time to artistic possibilities. It is the mind's way of unfolding. Next year it may be music, and art may be very distasteful.

The change of taste in art was regularly from bright-colored pictures of children or people or animals in action to quiet pictures of still life or nature. Several adults still feel that a picture is defective unless there are persons in it.

In the years 14 to 18 many spoke of loving only those paintings which represent deep feeling or portray the soul of the artist, such as "Breaking Home Ties," and the "Madonnas." The curve for the love of art begins at 10, rises rapidly till 12 and falls steadily after 15, reaching the base line at 20. It is one of the first awakenings of the adolescent mind.

566 answered regarding music. 464 of these—215 M., 249 F., have had an increased love of music, amounting in very many cases to a passion, which, however, soon passed away. Only a small per cent. still desire to make music a profession. 102—62 M., 40 F., experienced no change in their musical taste. The curve for love of music corresponds almost exactly to the curve of love of nature. It starts at 10, culminates at

15 and falls rapidly after 16. Numerous cases are reported where everything was given up to music for a year or two and then it was dropped. They say themselves that they were never equipped by nature for a musical career.

F., 20. Contemplated a musical career, 15 to 16. I imagined myself the greatest musician in the world. I could see the audiences fairly spellbound, hear the applause at the end and see the handkerchiefs wave. Now it is all past.

F., 19. I always meant to be a great artist. At 17 I purchased an outfit and began. The spell soon passed away.

M., 22. Deep and discriminating love for pictures came at 18. Enjoyed architecture. Music greatly disturbed me as a child and always made me cry, yet I liked it.

F., 18. I am fond of painting. Long to be an artist. Music fills my soul with rapture. Experienced a great change for wall-paper, architecture, and everything artistic.

F., 23. At 13 I used to dream of being a great musician. I never had any aptitude for it.

F., 18. I grow more fond of art and music. Have thought that I would like to be an artist, but really have no talent for it.

F., 22. Took great delight in pictures. Pulse quickened at the sight of a fine painting. Music often made me cry.

F., 18. I see the soul of the artist now in the picture.

F., 19. From 8 to 12 I liked pictures of birds, boys and girls. Now I like pictures in which there is sentiment. I feel music very deeply, it often makes me cry.

F., 23. At 15 decided to be a musician. Saved all my money to go abroad to study. It lasted only a few years.

F., 18. At 13 I longed to be a sculptor. That passed and now I long to be a musician.

F., 21. Love of melody and rhythm began to decrease and the possibilities of music as a means of expression has developed into an intense love of the musical drama.

F., 18. In our house hung Angelo's Madonna. I hated it and would make terrible faces at it as a child. At 15 it suddenly struck me with a beauty that nothing else has ever made me feel. The Madonna came to be my ideal. Taste in music changed from that with a strong rhythm to quiet, soft, dreamy music. At 7 I was to be an artist, at 13 a musician, at 15 an artist again. Now neither of them.

F., 17. Like landscape paintings. As a child I wanted to have persons in a picture. Do not like music.

F., 17. I used to like pictures of children in action. Now I like classical work.

F., 61. I adored pictures, paintings, and longed to be able to make them myself. I loved dreamy music and at that age would have given worlds for an opportunity to learn music.

Literature. What change was noted in reading? What different authors? What poets, novelists, essayists, historians, biographers, orators, books of travel, etc., were preferred? Was poetry or other literature written? Enlarge here. What literature and what character appealed most strongly?

523 full answers were received. The taste of those answering was evidently influenced by the literature taught in their schools. Yet as these returns came from 20 States, stretching from Maine to Utah, the results are certainly significant. 453—223 M.,

230 F., have had what might be called a craze for reading at some time in the adolescent period. 70—24 M., 46 F., have noticed no difference in reading. Love of reading is even more noticeable in the case of the biographies studied than in the returns.

Parents seldom realize the intensity of this desire to read. Those who feel it and are not provided with reading, some of which is even sensational in the best sense of the word, may take up the worst kind of sensational reading. It is the golden opportunity to cultivate the taste and inoculate against the worst forms of the reading habit. The curve of this intense desire to read begins at 8, rises to 10, and then rapidly from 11 to 14, culminates at 15, then falls rapidly, nearly reaching the base line at 18.[1]

M., 26. Never had any liking for poetry. Could not commit any of it without changing the words to destroy the metre. Read Shakspeare but did not like it. I was a voluminous reader of all that came in my way.

M., 22. I attempted to write poetic prose and unpoetic verse. Read romance, Kingsley, Scott, Irving, Bronté, then Curtis, Dante, Schiller and Shakspeare. All English Literature, as a study in biography and history, led to a delight in historic study and analysis of poetry.

M., 32. At 14 to 15 read the life of Napoleon. It made an immense impression on me. I tried to dress and act like Napoleon, copied dozens of pictures of him.

F., 21. From earliest childhood I have been an omnivorous reader of everything but trash. At 13 I was tolerably familiar with the whole range of current novels. And these, plus history, poetry and encyclopedias, furnished all my education till 12. I keep a novel on my study table, and an occasional half hour's reading preserves the balance in college life.

F., 18. Used to like fairy tales. Now my favorite is Les Miserables. A passion for poetry followed that for art and music.

F., 18. At 13 craved history and religious literature, then novels and plays. Had a craze for the opera. Used to write poetry at 13. Now literature pertaining to God and nature appeals to me most.

M., 18. As a child I was delighted with fairy tales and characters in action only. Became a great reader of fiction and poetry at the adolescent period.

M., 19. At 16 I got the idea that I was to be a great novelist. In the garret I wrote great works. Some of them had titles like "The Black Hand," and "The Lost Lover Reclaimed." I pictured countless admirers.

F., 19. Like to read Longfellow for his sympathy. Great admiration for Milton and Shakspeare and Lew Wallace.

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[1] A record was kept of the authors read and preferred. Of poets, Longfellow led more than two to one, having 237 votes, Tennyson 125, Whittier 104, Shakspeare 72, Holmes 53, Bryant 43, Mrs. Browning 21, Lowell 16, Wordsworth 15, etc. Of historians, Bancroft and Macaulay had most votes. Of novelists, Scott had 126, Dickens 112, Alcott 89, Eliot 64, Hawthorne 46, Roe 35, Stowe 24, Cooper 22, Lyall 21, Thackeray 17, Lytton 17, Lew Wallace 16, etc. Novels received 812 votes, poetry 797, essays 67, history 37, travel 30.

F., 17. First liked fairy tales, then novels, then books of travel. Wanted to write stories, tried and failed.

M., 35. My poetry period extended from 20 to 23. I read all of Burns' poems, much of Wordsworth, Byron, and Shelley. Also some of Moore, Mrs. Browning, Coleridge, Lowell and Longfellow. Lyrical and nature poetry were most interesting.

M., 21. Longfellow's Bridge is my favorite. It is very dear to me.

F., 61. I read everything I could get hold of indiscriminately. I wrote poetry, essays innumerable, and many stories, but destroyed the most of them, sent occasional papers to some periodical, and do not remember having any returned as unworthy of publication, but they never suited me, and when printed I shrank from acknowledging myself as the author.

F., 23. I was allowed to read just what I chose, and chose to read everything I could get at 13. For two years it was a great passion.

F., 19. Like poets best. They came in this order. Whittier, Longfellow, Bryant, Shakspeare, Wordsworth. Hope sometime to enjoy Browning.

F., 23. I read Ivanhoe many times at 13, so that I could repeat pages and pages of it. Passionately fond of Roe's novels at 14. Poems of nature, especially Scott's "Melrose Abbey," and Tennyson's "Saint Agnes Eve," and Longfellow's "Legend Beautiful," were imprinted on my memory never to fade. Whereas poems studied and recited as tasks have all faded.

Science. Was there more interest in botany, zoölogy, physiology, astronomy, chemistry, geology, physics and other natural sciences? Tell some details.

381 returns were received to this section. 290—122 M., 168 F., liked the sciences. 91—31 M., 60 F., disliked them. A record kept of those preferred shows the following votes for the various sciences:

	Male.	Female.
Total number of votes cast, ...		543
Botany, . . .	30	111
Zoölogy, . .	24	84
Physics, . . .	37	42
Physiology, . .	24	44
Astronomy, . .	24	43
Chemistry, . .	14	30
Geology, . .	14	16
Physical Geography,	0	6

M., 22. I naturally liked sciences, but a series of teachers whom I disliked caused me to avoid them and get interested in something else.

M., 20. Very fond of natural history and making collections. Have sat up till nearly morning, I was so interested in studying Physiology.

M., 35. From 14 to 16 curiosity regarding my physical nature became very intense. I had a deep sense of mystery. This was increased when I learned that our senses do not report correctly the outer world.

F., 17. A growing interest in science. Wanted to take more than chance offered. What wonders do they reveal to us!

M., 19. At 19 I developed a passion for rare specimens of rocks. Spent hours in old stone quarries. It lasted three weeks. My folks called it another fad.

M., 26. Was interested in Chemistry, Physics, and Botany. It never occurred to me to notice the flowers. It was the book work I wanted. Zoölogy, my present specialty, I did not begin till 23.

F., 17. At 13 I had a passion to study astronomy. I said I *would* study it when I was older.

M., 22. At 14 I had a retreat in the barn where I collected and arranged stones, shells, woods, etc. Would spend hours there. I mean to be a teacher of Botany and Zoölogy.

F., 19. Botany and Chemistry at 16 were liked much. Sciences led my thoughts up to God.

F., 18. Biology produced a great reverence for God.

F., 19. Astronomy first opened my eyes to the boundless glory of the heavens, awakening the first deep realization of a Supreme Being.

Philosophy, etc. Did any teaching or study of philosophy, morals, psychology, æsthetics or logic help you personally; if so, what ideas, and how? Did it make or help doubts?

A large number of those who answered the syllabus had never studied philosophy in any form. 194 had studied philosophy and answered the question. Of these 167—34 M., 133 F., have been helped by the study of psychology and ethics. 27 thought they had received no benefit from it. More than six to one had doubts removed by the study of philosophy.

The following typical cases show the general character of the returns and many of the benefits received.

F., 18. The study of Philosophy and Psychology opened new lines of thought and gave broader views.

M., 22. All struggle with doubt came before I studied Philosophy. This served to straighten me out.

F., 24. Psychology has helped me in habits and understanding of children. It has cleared up many doubts.

F., 18. Psychology has helped me form better habits, increased my observation, made me love children more, given me valuable hints on teaching, made me desire to live a better, more cheerful life.

M., 18. Psychology has helped me to understand myself and the Bible and has removed many doubts. The theory of evolution when I saw that it did not contradict the Bible, strengthened my belief in it. The study of habit shows the value of repetition.

F., 21. Philosophy at 13 was destructive, awoke doubts that I could not answer. Made faith impossible. I could not feel assured of anything. Storm and stress. Studied Kant and Hegel and became a Christian through the ethical life thus developed.

M., 20. Psychology has given me an idea of the wonderful work God has created in a human being. Taught me to understand man, animals and a child better.

F., 17. Psychology has made teaching a sacred profession. A teacher must be cautious in her methods and example. It has shown the power of habit, made me observe others, judge less, deepened religion, shown me what a child is, explained educational principles, use of apperception, developed the study of the individual, development in natural order, thoroughness in primary memory. Made me care more for my fellow students, given a desire to study, helped me know myself, shown me how little I know.

F., 24. Psychology has helped me to understand myself, to see the relation of man to the universe, to run our emotions into right channels, and make the body the instrument and friend of the soul. It has removed doubts about God.

CHAPTER II.

Biography.

There is a two-fold difficulty in the way when we attempt to gather adolescent facts from biography. In the first place, few writers of any kind have noted the distinguishing mental phenomena of this period, although savage tribes have noticed it for centuries. In the second place biographers would find it extremely difficult—at the time of their writing—to ascertain with any accuracy the adolescent qualities.

The adult person seldom recalls much of the emotional life of his early years. This can be gathered only from diaries, notes, or the recollections of others. A friend may be impressed with the passing mood or condition of another and retain it longer than the one who experiences it. Even the best observers of youth can see but a fragment of what is passing in the soul of the adolescent. It is only when there is an eruption or expression of the feelings that others are made aware of their presence. Since this comes as a surprise to the parent or friend, it may be retained for a long time, while the youth passes so rapidly from one thing to another that he soon forgets particular phases.

A few autobiographies give very full details of early life. Among these Tolstoi's is one of the best. His record is that of a strong, healthy character. Others are more highly magnified but are of more doubtful value for scientific study.

The writer became much interested in a few of these, and undertook to bring together the scattered rays of light from many historic lives. After reading a large number it seemed best to select 200 whose early lives were quite fully described and 100 or 50 others from each of the following classes: Pioneer settlers in the west, home and foreign missionaries, actors, artists, poets, musicians, inventors, scientists, novelists and professional men. In all, one thousand have been noted and studied after reading a much larger number.

It may not be too far afield to say here that biography in quantity is quite different from the biography of an individual. One good biography may be very interesting but it is solitary, like a shoot that has grown alone from the ground. A hundred or a thousand are like a large and beautiful tree. The balancing of part to part, the relation of each to each, the beauty and symmetry of each and all, make a majestic whole. After read-

ing a few carefully, a hundred or more skimmed rapidly must prove intensely interesting and very instructive.

I shall first present the results of the 200. They were taken at random from all classes. The list includes statesmen, professional men, business men, explorers, inventors, mechanics, scientists, publishers and others. The attempt was made to make this list as widely representative as possible.

In tabulating the results of the study, therefore, no one rubric would have an advantage, unless we consider that those whose lives are written are prominent and we might expect them to be more interested in literature, science, art, poetry and nature than the average life. The average life, probably, would show like results of less magnitude. Humanity is one, and in those who have had better advantages of nutrition and care in youth, education, experience and help in later years, the common qualities are more fully developed. No new ones are acquired.

The following points have been noted and the results shown below in graphic form. By "nature," "art," "music," etc., we mean an unusual interest in these subjects. Most people like to read, but under literature we have scored only those who had a passion to read everything in reach at sometime before twenty-five years of age. The same is true of the other rubrics. Poetry includes none who wrote merely a few verses but those who wrote good poetry, most of which was published. Under science we have recorded those who had a deep love for it in adolescent years. The other headings will explain themselves and will be more fully understood in the short extracts of the lives given below.

Of these 200 cases then, though often very incomplete, we find 109 recorded as being lovers of nature in adolescent years. Most of these included the love of solitude, as a desire to be alone with nature. 11 were solitaires. 53 have had a passion for some form of art or music. It may have lasted only a few days or weeks or it may have lasted for years.

120 have had a craze to read. 58 wrote poetry. The average age when these 58 wrote poetry is almost 15. The most frequent year is 13.

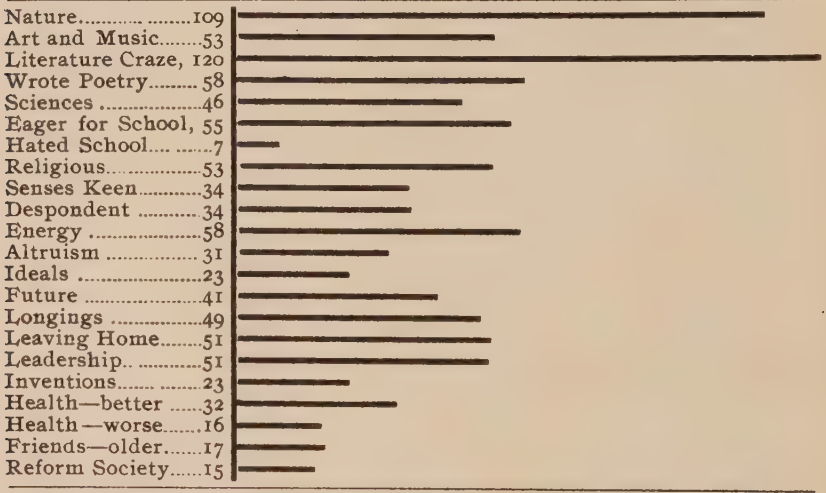
46 were fond of sciences. 55 had a great desire to go to school. 7 hated school. Of 34 it is said that their senses were very keen and they were good observers.

Deep religious emotions are mentioned in case of 53. The years spoken of as the times of deepest emotions and the largest number of conversions are 14 to 18. The average is 16 for conversion or uniting with the church. The largest number is at 15. All of these were boys.

34 have had times of great despondency. 58 mention times of great energy or unusual activity.

31 have shown great unselfishness and devotion to others in the years 12 to 20.

23 make mention of ideals which they imitated. 41 have spent much time planning the future. 49 had deep longings. 51 left home before 20 years of age to support themselves. They often broke with home authority. Average age about 16. 9 showed a deeper love for home. 51 evinced marked leadership in their teens. Useful inventions were made by 23. 32 spoke of better health after puberty. 16 had poorer health. 17 had some friend much older, one had an intimate friend much younger than himself. 15 wanted to reform society. The other points tabulated are so poorly reported that they are not worth mentioning. All the above facts have reference, of course, to the years before 25, mostly 12 to 20. This can be shown graphically thus:



The above chart must not be taken as showing any definite facts. For out of the 200 only 120 report on any of these points noted. 15 is the least number used. If the whole facts could be discovered the result would doubtless be modified very much. It remains a significant fact, however, that out of 200 famous men and women, the biographers should take notice that in their teens so many were lovers of nature, solitude, sciences, etc., and at times, at least, so many had spells of devotion to music, art or literature. This table should be compared with the total returns, which come more nearly from the average boy and girl. Any movement will be towards the normal, as these figures change toward those of the returns.

The following glimpse into the lives of famous people shows the adolescent phenomena, and when read together they give a picture of what any youth may—and most youths do—pass through to a greater or less degree.

It may serve to enable the general reader to recognize adolescent facts in literature if we give them here, briefly, in one group.

Savonarola was a solitary, pondering, meditative boy. He felt deeply the evil of the world and need of reform. He spent a whole night planning his career at twenty-two.

Shelley was unsocial, solitary, and indulged in wild fancies, walking by moonlight alone, gazing at stars and moon. He was deeply attached to a man much older than himself.

Henry Ward Beecher was intoxicated with nature. In college days he "drank in those deep draughts of nature that have been the inspiration" of his life.

Goethe was deeply in love at fifteen. He showed a remarkable attachment to his sister and was full of wild dreams and longings.

George Eliot had a passion for music at thirteen and became a skillful pianist. At sixteen she was religious and founded many societies to help the poor and care for animals. She had flitting spells of misanthropy.

Edison attempted to read through the Detroit Free Library, and read fifteen solid feet before he was stopped.

Robert Drury had at eleven a passion to go to sea. Nothing could restrain him.

Seward refused to recite one day in college and left the room.

Tolstoi says in his autobiography: "Did you ever happen, dear reader, at any period of life, suddenly to perceive that the aspect under which things appeared to you had undergone a change? That everything you had seen up to that time had suddenly taken a new and perfectly unfamiliar appearance?" And again: "I have read somewhere that children between twelve and fourteen years of age—that is the transition stage from childhood to adolescence—are especially apt to become murderers or incendiaries. When I recall my own adolescence (and the state of mind I was in one day) I can understand the incentive to the most dreadful crimes committed without aim or purpose, without any precise desire to harm others—done simply out of curiosity, out of an unconscious need of action. There are moments when the future looks so gloomy that one fears to look forward to it."

Much to the surprise of the family he became furiously angry one day. After that he said: "I had a dim consciousness that I was lost forever. . . . I thought there must be some reason, unknown to myself, why everybody hated me." "I am perhaps not the son of my father." This notion seemed even probable. It consoled him. He resolved to thank his father and depart, then sobbed at the idea.

About seventeen, for a year, he was very solitary, thinking on the destiny of man, the next world and the immortality of the soul. It occurred to him that death was always at hand. He cast aside his lessons and spent the day lying on the bed, eating gingerbread bought with his last money.

"I would fancy myself some great man, who had discovered new truths for the good of humanity," yet "was too bashful to meet common people calmly." This illustrates how the emotional life awakens.

"The virtuous thoughts which we had discussed had only pleased the mind, had not touched the feelings of my heart. The time came,

however, when these thoughts returned to my mind with such fresh power of moral revelation that I took fright, thinking what an amount of time I had been wasting, and I resolved that very second to apply these thoughts to actual life."

Tolstoi had a deep religious experience at seventeen. He wept for joy over the new life. He had a period before twenty when he told "desperate lies," for which he could not account. About twenty he had a passion for music, and a little later for the French novel. (These scraps give but a faint idea. His adolescence should be read by all interested in this subject.)

Rousseau had an unprecedented love of history at nine or ten. His emotions were very impetuous. Of himself at sixteen he writes: "I was very uneasy, discontented with self and everything else, weeping without cause, sighing I knew not why."

Keats experienced a great change in his nature at fourteen. "Genius clouded his life and made him solitary." Mabie says of him: "There comes a time in the life of a boy of such gifts when the obscure stirrings become more frequent and profound. The imagination no longer hints at its presence but begins to sound its mysterious and thrilling note in the soul. There is no other moment so wonderful as this first hour of awakening—this dawn of the beauty and wonder and mystery of the world on a nature that has been living only the glad unthinking life of the senses." "It came to Keats in his fifteenth year." "It came with that sudden hunger and thirst for knowledge which consume the days with desire as with a fire, and fill the young heart with passionate longing to drain the cup of experience at a draught." He was "at the morning hour when the whole world turns to gold." "The boy had suddenly become a poet."

Chatterton was too proud to eat a gift dinner when nearly starved. He wrote good poetry at an early age, and suicided at seventeen for lack of sympathy and appreciation.

John Hunter was very dull and averse to study. About twenty his mind seemed to awake and he soon became an expert in anatomy.

Wm. Jones reproduced "The Tempest" from memory at twelve.

Patrick Henry when about fifteen "chose to pursue his sports alone rather than in company and would sit by the hour under the shade of a tree watching his line floating upon the quiet waters, the bait untouched by a single fish." He woke up about twenty.

Alex. Murray, at fifteen, in one and one-half years, acquired almost unaided the Latin, Greek, French and Hebrew languages and read several authors in each.

Mr. Gifford (Pub. of Quart. Rev.) was restless and discontented because he had nothing to read. He went to sea at 13. Bound out to a shoemaker, he beat leather smooth and with an awl worked late at night on algebra. At twenty he says: "I had a period of gloom and savage unsociability. By degrees I sank into a kind of corporeal torpor, or if roused into activity by the spirit of youth wasted the exertion in splenetic and vexatious tricks, which alienated the few acquaintances which compassion had yet left me."

Rittenhouse at fourteen, when plowing, covered the fences with numerical figures. "He held the plow and thought of infinite time and space." "Every pebble and flower taught him a lesson."

Benj. Thompson had a passion for sciences about fifteen. Fond of experiment. His fire-works exploded while he was trying to make them, and he was badly hurt. At seventeen he walked nine miles and back every day to attend philosophical lectures at Cambridge. At nineteen he married a widow of thirty-three.

Franklin at twelve had a passion to go to sea. About thirteen he

read poetry all night. He wrote verses and sold them on the streets of Boston. He doubted everything at fifteen. He had a wandering spirit and left home at seventeen. He started the first public library in Philadelphia before he was twenty-one.

Robert Fulton was poor, dreamy, fond of nature, art and literature. He had a mercurial temperament. He determined to be a painter and showed talent, but gave it up for poetry. He left home at seventeen. He invented many valuable things besides making the steamboat.

Samuel Bowles planned and started the Daily Springfield Republican at eighteen.

Bryant was a very precocious boy. His health was poor till fourteen when he changed to permanent, good health. He was a devoted lover of nature and began to write poetry at nine. From twelve to fifteen he was deeply religious and prayed for poetic genius. He wrote Thanatopsis in his eighteenth year.

Jefferson was passionately fond of nature and animals at fourteen. At seventeen he studied fifteen hours a day.

Garfield, though living in Ohio, said: "Mother, you don't know how I long for the sea. I want to see something of the world." In after life the sight of a ship gave him a strange thrill.

Hawthorne wrote poetry early. He had a passion for the sea. "I should like to sail on and on forever and never touch shore again." Of his life, about fifteen, he wrote: "How well I recall those summer days, when I roamed at will through the Maine woods. It was there I got my cursed habit of solitude." He was haunted with an idea that he would die before twenty-five.

Lowell was very fond of birds and flowers.

> "Dear common flower that growest beside the way.
> . . . . . .
> To look at thee unlocks a warmer clime.
> The eyes thou givest me
> Are in the heart and heed not space or time."

Peter Cooper was altruistic from eighteen to twenty, and said: "If I get rich, I'll build a place where the poor boys and girls of New York may have an education free." He left home at seventeen.

Whittier, at fourteen, saw a copy of Burns' poems, which excited him very much. "It changed the current of his life."

Howells wrote an essay on human life at nine. He was on a newspaper from twelve to fourteen, and worked till 11 P. M. and was up at 4 A. M. to carry papers. About fifteen he saw Longfellow's poems. His soul was "filled with this new, strange sweetness."

Aldrich describes his adolescence in his "Story of a Bad Boy." He had a museum of animals, a pet pony, and was a leader and hero among the boys. He published a volume of poems at eighteen.

Holmes had a passion for certain flowers. He wrote poetry at fifteen. He said: "I have the most intense, passionate fondness for trees in general, and have had several romantic attachments to certain trees in particular.

J. T. Trowbridge learned French, German and Latin without assistance before twenty-one. He read Scott, Byron and Moore, and longed to write. He composed as he held the plow, and slyly wrote it in the evening.

Joseph Henry, at ten, followed a rabbit under the Public Library at Albany, and found a hole in the floor that admitted him to the shelves. He took down a book. It was a novel and excited his interest, and, unknown to everybody, he read all the fiction in the library. He suddenly stopped and began Physics, Astronomy and Chemistry. He developed a passion for sciences. He also had a passion for the stage and became

an amateur actor. (He was afterwards President of the Smithsonian Institute.)

J. C. Downey came from Ireland at fifteen. He went south at seventeen, west at nineteen. "His mind was full of visions of broad acres." He settled at Los Angeles.

H. H. Boyesen was deeply inspired by nature and thrilled by the idea that he was a Norseman. He had several hundred pigeons, a lot of rabbits and other animals. He loved to be in the woods at night. When the hour came to leave home for school, he was found, after a long search, with his arms around the neck of a calf, to which he was saying "good-by." He could not leave his pets.

Maxwell, at sixteen, had a horror of destroying a leaf, flower, fly or anything.

Jahn writes: "In early life there grew in my heart an inextinguishable feeling for right and wrong—the subsequent cause of my inner weal and outer woe."

Nansen's thoughts "were more to him than his dinner." He ate a bad egg while in a brown study. "Unstable in his studies." He was very fond of sciences at fifteen. His temperament was inflammable. He had deep longings, great courage and altruism. "While I was in my teens I used to pass weeks at a time alone in the forest. I disliked any equipments for my expeditions. I liked to live like Robinson Crusoe, up there in the wilderness."

T. B. Read had a passion for reading from twelve to thirteen. He ran away at seventeen, painted, acted, and wrote poetry. He published a volume of poems at twenty-six. He became a successful painter in oils.

Cartwright heard voices from the sky at sixteen—"Look above." "Thy sins are forgiven thee."

Spencer suggests the loss of the emotional nature in speaking of his completed life-work. "Doubtless in earlier years some exaltation would have resulted, but as age creeps on feelings weaken and now my chief pleasure is in my emancipation." His early desire was to be a civil engineer. He entered on that career at seventeen after one idle year. He gave it up for lack of employment at twenty-five and began his literary work. He never went to school. He was for three years a private pupil of his uncle.

Sir James Mackintosh was fond of history at eleven. He fancied that he was emperor of Constantinople. He loved solitude from his thirteenth year, wrote poetry at fourteen, fell in love at seventeen and began his literary work at twenty-three.

Thos. Buxton had a great love for dogs, horses and literature. He combined these by reading while riding on an old horse. At sixteen he loved a literary woman. It aroused all the latent powers of his mind. He resolved to do or die, and took thereafter every possible prize in school.

Webster was fond of nature and solitude. At fourteen he could not rise to speak before the school.

Scott began to love poetry at thirteen and forgot his dinner reading it. His father sent him to school to study law. He slyly kept poetry and novels in his desk.

Newton was fond of solitude, and at thirteen introduced the paper kite. He tried farming at sixteen, but with no success. He wrote poetry in his teens.

Pascal learned geometry at twelve, alone and contrary to his father's command. He wrote a treatise on conic sections at sixteen and invented his arithmetical machine at nineteen.

Nelson went to sea at twelve. At fifteen he commanded a boat in peril. That same year he left the boat to fight a polar bear.

Joseph Banks, the great botanist, was idle and had no interest at thirteen. About fourteen, he was bathing with other school-boys, came out late, walked home alone and was so struck by the beauty of the flowers by the wayside that he at once started his great career.

Montcalm and Wolf both distinguished themselves as leaders in battle at seventeen.

LaFayette came to America at nineteen, thrilled with the idea of our bold strike for liberty.

Gustavus Adolphus declared his majority at seventeen and soon was famous.

Ida Lewis rescued four men in a boat at sixteen.

Grace Darling, at twenty-two, rescued nine men, when others would not put out.

Joan of Arc began at thirteen to have those "visions" which were the inspiration of her life.

In making the above study my attention was attracted to the early age at which actors won renown. I decided to study a hundred actors and compare them with a hundred of a different class. This proved so suggestive that the study was extended and the results are given below.

The list of actors which we shall consider here includes the most famous that have appeared on the American and English stage in the eighteenth and nineteenth centuries. The age when they made their débût, or at least showed to the world that they had remarkable talent, has been taken and shown graphically in the curve below. The average age of the first great success of these hundred actors is exactly 18 years. The range is 6 to 28 years. A few who were almost born on the stage, and who played before five years of age, are not recorded in this list. The endeavor has been to take those who were attracted to the stage voluntarily. However, a few were sons or daughters of actors and knew no other life. These at some time showed independent ability and that age is taken. Many of them appeared as amateur actors long before they were recognized as stars.

A study of the curve shows at once that this talent is not an intellectual product but a matter of the feelings or emotions. In other words actors are born, not made. They inherit the necessary qualities. They reflect the emotional life of the age. Nearly one half of these were Irish or of Irish descent. England and Wales furnished most of the others. The pure American stock has furnished comparatively few great actors. We seem to be cold and unfeeling. It may be, however, that the American youth have had so many diversities that the emotions have been scattered along other lines.

The curve shows that few make a success on the stage for the first time after 22. From 16 to 20 is the time to expect talent in this line. The second rise of the curve may apply to another distinct class of actors who act more from the intellectual

and less from the emotional standpoint. The same may be noticed in the curve of poets and missionaries—a rise after the general fall. The long life of many actors, and the wealth of feeling displayed even to the last, shows that the emotional nature, if cultivated, need not be lost in later years, as it seems to be in many lives.

I have placed on the same line with actors the curve of a hundred novelists. I took the age of the publication of their first story that met public approval. It is fair to compare it with the curve of actors, for their curve represents the first success.

The difference is striking. One is a product of emotion, the other more of the intellect, or intellect touched by emotion. While 90 per cent. of actors were famous before 22, only 4 per cent. of novelists wrote acceptably at that age. This would indicate that the merely emotional novel fails. Education, observation, and a close study of human life and character seem to be required to write successfully. The actor has the intellectual product before him. He must feel and interpret.

Miss Porter, Miss Alcott and Miss Phelps are among the earliest novelists. The list is taken mostly from American writers, for, so far as possible, I have chosen to study our own life and times. The curve is a poor one, for it needs a larger number of cases. The exact dates are given, however, so it is correct for this hundred cases. The dips mean only a lack of numbers. The average age of these writers at the time of publishing the first novel is 31.65 years. The range is 12 to 51 years.

The next curve shows the time of publishing the first poem or volume of poems by 53 different poets. The curve is influenced by the fact that some did not publish till long after they had written well. It shows, however, that the emotional, adolescent quality enters much more into poetry than into the novel. The average age of first publication that showed talent is 18.1, thirteen years younger than the novelists. The range is 9 to 50. The 58 above noted in the 200 wrote poetry at 15 on the average. None are included in his list of poets, for only a few of them were poets. All of these 53 wrote much earlier than 18. The time of first publication is taken so as to compare it with novelists.

With the curve of the poets I have placed a curve of 50 inventors, taking the age of their first patent. There is not much poetry or emotion apparently in inventions. It requires cool, intellectual work, touched by enthusiasm. The average age is 33.8. They range from 18 to 55. The younger ages are not associated with the most valuable patents.

The next pair of curves show the greatest contrast. They are 100 musicians, mostly Europeans, and 100 American men from the three professions—law, medicine, and theology.

Musical talent cannot be compared with anything else in this study. At first it seems to be closely allied to poetry or art. I made the mistake at first of classing them together. They are totally different. Ole Bull at the age of three was filled with music. Others could be cited. The motor development necessary for expression needs to be gained and the musician is full-fledged. We must look back to the remote past to account for this talent of music. We find that animals are strangely affected by music, some agreeably, others not so. Savage tribes are peculiarly susceptible to the rhythm of music. There has been developed somewhere in our history a deep response to the elements of music. It may be that the high musical art of to-day is an adaptation of this primitive quality to the culture and intelligence of the age. The young musician is often from a family of no musical talent. He seems to have developed to a wonderful degree the musical germ which is latent in us all.

The age of first showing rare musical talent is not easily found in biography. This list has been verified from different sources of information, where it was accessible, and the result is approximately correct. Like all the curves, it does not pretend for a moment to be absolutely exact. A much larger number would fill up the dips and make minor changes. I doubt if the general character of any of these curves would be greatly modified. The dips mean nothing. There is a tendency in biographies to avoid certain odd numbers, especially 19, as these curves will show. A general, continuously curved line should be thrown over these cutting the points and passing above the hollows.

The average age of these 100 musicians at the time when they first showed remarkable talent is 9.92 years. The range is 9 to 20. Only about one-half of them had musical parents, so far as the record shows. 95 per cent. showed rare talent before 16.

The age of 100 professional men when graduating from the professional school, is 24.11 on the average. As these were men of the preceding generation, the age is earlier by two years, probably, than of men who graduate to-day. Ten years should be added, without doubt, to this average to mark the point of recognized success. This would place them close to the novelists and inventors. The professional men were all men of renown. In all but a few instances they were college educated. Only 8 per cent. began their professional work before 21.

The next curve shows the age of the development of the artistic ability. 53 artists were taken, mostly American. 90 per cent. of them showed talent by 20. The average age is 17.2. The range is 6 to 30. 50 fall between 10 and 23 years. The curve is very close to that of poets in time of development.

They seem to be different ways of expressing similar emotions. Many of the poets in this list were artists, and many artists were poets.

With that may be seen the curve of 50 missionaries. It represents the time of departure to the field of service. The curve is not so significant as the "Student Volunteer" movement and the Christian Endeavor. These show the enthusiasm and the altruistic, self-sacrificing, religious zeal of adolescence in a remarkable way. The Y. P. S. C. E. would make a valuable study in adolescence.

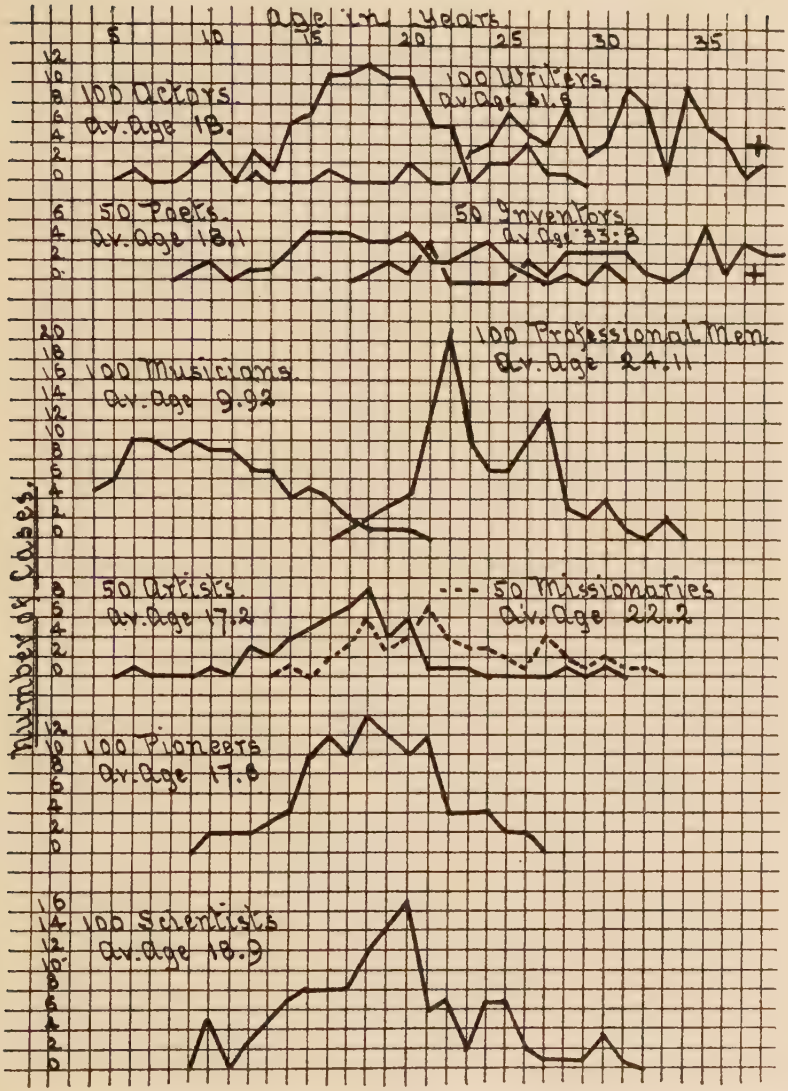
The next curve represents graphically the ages when 100 pioneers, who have made their mark on the civilization of the far west, left their parents and home to seek a fortune amid the dangers and hardships of the unknown land beyond the Missouri River. We get its import only when we consider what it meant sixty years ago to cross the prairies in "schooners," in constant danger from Indians, fires, etc., into an unknown and barren tract. Yet we find these boys leaving home at 17.6 years on the average. The range is 10 to 26 years.

The last curve is that of 118 scientists. So far as possible I have taken the age when their life interest first began to glow. It has been hard to determine this exactly. I suspect that in many cases the real age is a few years younger than I have indicated. The dips in this curve, especially, are not significant. 18 of these are taken a second time from the list of 200, but used here because they helped fill the dips of the curve of 100. They did not change the general outline. The average age is 18.93 years. The range is 10 to 30 years.

These curves easily fall into two classes, the emotional and the intellectual. The actors, poets, artists, pioneers and scientists—*i. e.*, the beginning of the scientific enthusiasm—represent one class which shows very clearly the emotional enthusiasm of adolescence.

The writers, inventors and professional men, although, perhaps, showing enthusiasm or emotion, win their success more in the realm of the intellect. The curves of the first class culminate at 18 to 20 years. The second between 30 and 40.

Of course the mature poet and scientist combine in a rare way emotion and intellect. Neither can be totally wanting in any successful life, yet these curves plainly show that the one predominates at certain times and the other at other times. The tendency seems to be for the emotion to ripen into the more intellectual phase. It seems to be a universal fact that intellect grows out of the emotion. Feeling, knowing, willing, is the order.



I can but feel that these lives teach a tremendous lesson. They show, to me at least, that a well balanced, healthy, well bred, fine grained nervous organism will very likely have deep and fluctuating interests or enthusiasms.

Instead of the regular repression now almost universally practiced toward what many may be pleased to call a craze or

fad, these should be encouraged. The boy or girl should be pushed into them, and the glow should be turned, if possible, to a white heat. There is no danger of a shallow, fluctuating nature as a result. The very opposite will be true. The well-poised man of many sides, who, although a specialist, sees the value and bearing of all other branches of knowledge on his own subject, cannot well result from anything else. To repress or discourage such tendencies limits our horizon at once. It never should be done.

See the boy Edison as he begins to read through the Detroit Free Library. Fifteen solid feet of the task completed with all the eagerness of a hound in the heat of the chase. It means a great brain. It is necessary to burn out these minor interests, touch the farthest point on this, that and every side. That gives the basis for magnificent productivities. They will be useful because the man has touched the bounds of life. He commands the whole range. The same is true in the case of Joseph Henry or any of those cited above. They are all normal and healthy.

On the other hand a deep, silent, moody, lost condition of mind may prevail. Patrick Henry is a case in point. Some of the best minds have shown that dreamy, absent-minded quality that may mean that the boy or girl has awakened to a world of thought so vast that the mind wanders to find a basis for activity. They need encouragement. A rope should be given them that is tied to a most vital or self-sacrificing cause.

In a word, the flip, or blasé type is a bad sign. The brown study, or the deep and passionate interest type is promising. A round, full adolescence, with a rich religious experience, is the promise of a great life.

CHAPTER III.

Conclusions.

This study of adolescence has a two-fold bearing. It is important from the standpoint of psychology and has a very practical and valuable suggestion for pedagogy. It is not always easy to separate the psychological from the pedagogical, but this distinction will be made here for convenience.

Psychology.

I. The period of adolescence is the focal point of all psychology.[1]

However we may look upon the origin of the human intellect, whether from an evolutionary standpoint or otherwise, it is easy to conceive that mind as such awoke to self-consciousness at the adolescent period of the first man. Adam and Eve were evidently in the adolescent period when they awoke to self-consciousness.

The spirit of rebellion against authority and the whole account of the later scene in the garden is typical adolescent psychology. If we take man as an evolution, we must think of him as coming to self-consciousness in this period of life when the pendulum swings farthest and there is the greatest ferment known in the individual history. In other words adolescence is the time of the soul's awakening both in the race and in the individual. From this first awakening, mind has pushed up to full rational self-consciousness and then directed its attention backward over the path of its development to pre-adolescent stages, including not only the psychology of childhood but of animal life down to the lowest traces of intelligent activities.

Adult psychology begins in the adolescent period and child psychology with its hereditary influences ends here.

To understand the human mind in later life the adolescence must be studied to find what stages of development have been passed through and in what stages the development has been

[1] President Hall, speaking of education, has said: "I think we may say, anthropologically, that it (puberty) is the period when education as a conscious, special, or public function began, and that has slowly developed as civilization has advanced, downward to the kindergarten and . . . upward toward an ever-increasing maturity of postgraduate work." *Forum*, May, 1894, p. 303. See also pp. 301–307.

arrested. It is, then, the period on which the study of the psychology of the individual should focus.

II. The characteristics of the psychology of adolescence are, for the most part, distinct. The length of the period is indefinite. It varies with each individual.

The most prominent feature of adolescence is the emotional life. The emotions are not confined to the years 10 to 25, but they are much farther beneath the surface in later life, and can be awakened to expression only by different or stronger stimuli. The emotional nature seems to mature rapidly and nearly reach its maximum before the intellectual or rational side, if they may be separated, has developed. This gives preponderance to the emotions and characterizes the period.

The moods normally are strongest and most fluctuating during adolescence. Despondency, spontaneous joy, love, hate, selfishness, generosity, sloth and energy of both mind and body, all very intense in degree, are strictly adolescent phenomena. They are normally outgrown unless development is arrested.

The growth of the ethical nature and the deep, broad, intellectual interests root in the emotional life of adolescence. If the instinct emotions are properly guided, they will pass over into permanent intellectual interests.

III. The mind, including all psychic life, grows by sections. The interest may center in prize-fights or foot-ball one year, and the next in æsthetic culture. The musical side may absorb the energy for a time to pass and be forgotten. The growth of the mind may be compared to a circle which enlarges by extending one sector at a time out to a new circumference.

These absorbing and diverse interests may be compared to separate sectors which push out to reach their final limit. The circumference or final intellectual horizon of adult life is determined, therefore, by the intensity of these interests and the extent to which they are pushed. Many interests enthusiastically cultivated mean a wide intellectual horizon.

IV. The discussion can hardly be laid aside without a suggestion as to the cause of these adolescent phenomena. The idea is often advanced that the development of the reproductory function on the physical side causes these mental phenomena. The present study suggests a different view.

It is true that the curves of most of these phenomena culminate within a year or two of the time of puberty. But some of the strongest adolescent emotions are reported by many individuals as occurring years before or years after puberty.[1]

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[1] After writing the above another case was reported by a young man possessing a strong, active, but very calm and philosophic mind, who

The strongest adolescent symptoms are found in the most highly developed organisms which are farthest removed from the physical or brute nature, and where reproductory power is often very weak.

Dr. Scott[1] showed the relation between sex and art and took the position that art is an irradiation of sex. It might well be shown that there is a similar relation between sex and other things. There are many irradiations of sex. School and college life is one. Sex does not cause art any more than sex causes intellectual ability, but both draw their vitality from a common fountain, and when one draws more than its share the other suffers.

Adolescent phenomena sometimes appear with all their intensity in old age. This is not necessarily a recurrence or a retraversing of the neural paths or channels cut in adolescence, for one person, who has been carefully studied, has passed through an entirely new set of emotions in his senile adolescence which were unknown to him when a young man. In this particular case the sex element was very strong in youth, and the mental adolescence not marked by great fluctuations. After 70 years of age a very intense mental adolescence developed with vivid religious experiences unknown in earlier life.

The adolescent interests seem to depend on the size and quality of the brain in direct ratio, and are inversely proportional to the growth and vitality centering in the reproductive organs. That is, precocious and abnormal use of the reproductive function destroys mental adolescence, with its many sided interests, faster than anything else.

It is true that depression and a desire for solitude, and possibly other similar phenomena, may accompany such degenerate use of this function, but they are of a very different kind from the normal adolescent love of solitude and passing moods of depression. The final reason for my inability to believe that sex is the cause, is the fact that eunuchs have the same adolescent symptoms as others.[2]

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had a religious storm and stress period between 8 and 10 years of age, and about the same time had these spells of elation and depression. He was not precocious physically. He is very stout, with dark hair and eyes, with phlegmatic tendency.

[1] Colin A. Scott, "Sex and Art," *American Journal of Psychology*, 1896.

[2] The following letter is from a professor in a well-known college in New England, who has spent years in the East and has made a special study of the eunuch. The Nubian eunuch is as nearly desexed as possible, and that in infancy.

"There is no question that castration at an early age does in various ways modify physical development, though I do not think it modifies it so much as is commonly supposed. I have seen Nubians, eunuchs,

I have also found several cases of phimosis, which arrested all growth of the organs, but did not apparently affect in the least the mental adolescence. The effect of castration on animals, arrests development of organs of combat and makes other changes. We cannot argue here from animals to man. Man learned long ago to rely on brain more than brawn. Castration or arrested development does not make changes in man which are comparable to the changes made in animals.

The physical change of features at this time suggests another reason for these adolescent phenomena. They indicate a change of hereditary influences. From the moment that the spermatozoon unites with the ovum there is a conflict of hereditary influences between the two, that the life contained in each may assert and express itself. Common observation shows that this conflict of these microscopic elements, even in the closed apartment, with all nervous connections to the rest of the body as yet undeveloped, is so violent as to cause a disturbance of the sympathetic and vaso-motor systems.[1]

The fact that the type not only of features but also of family characteristics may change at adolescence, shows that these forces are still prominent and are struggling now in final conflict for the mastery and the opportunity of self-expression. This war of prepotencies, which causes or results in changed external features, is sufficient ground for the occasion of the adolescent mental phenomena. It is not the cause. It is also the occasion of the later development of the sex organs peculiar to the

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and Nubians, non-eunuchs, together, and in every physical feature they resembled each other. The difference most likely to be observed was in the voice. Castration does produce an immense effect, though an indirect one, upon the character. It is not the operation in itself, but its effects upon the mind. The mind broods over the fact that the body is reproductively impotent and is filled with morbid resentment and jealousy. No other physical deformity can so far distort and devilize the character. As far as I can judge, sex feelings exist unmodified by absence of the sexual organs. The eunuch differs from the man, not in the absence of sexual passion, but only in the fact that he cannot fully gratify it. As far as he can approach a gratification of it, he does so. Often, maddened by sense of impotence, he wreaks vengeance on the irresponsible object of which he is enamored. . . . . The eunuchs have all the adolescent phenomena. I have watched, for example, boy-eunuchs of ten or eleven years, possibly younger. Early conscious as they are of their desexed condition, there was nothing apparent in their moods or pleasures different from other children of their race. They took the same delight in a perfume or a flower, or a pretty baby, as any other boy of their race would have done. The little eunuch is more inclined to solitude than almost any Western child, but perhaps no more than his compatriots. As to rebelling against authority, I have more than once seen a diminutive eunuch do that."

[1] This would indicate that the protoplasmic conditions of interaction of parts is not entirely lost in the differentiated organism. The protoplasmic communication is intermolecular.

individual which will very likely be characteristic of the parent or family which he resembles in mental and physical characteristics. The cause must lie much farther back in the, as yet, unknown forces of life itself. When we know what life is, and where differentiations begin, we may speak of the cause of adolescent phenomena.

Pedagogy.

I. *Sex Hygiene.* A woman reports three daughters. The oldest had her first sickness one month before 15. The next, 19 months younger, learning this phenomenon from her sister, followed in three months. The other sister, who was 11.5 years of age, followed in six months. A girl, 11 years old, very small and not precocious, was told what to expect, her mother not thinking it would occur for years. In a short time the daughter came to puberty. Another girl, verified by her mother, reports the power to control the menses. She can put it off a week at will. The question arises as to the possibility of precipitating the menses by suggestion. It is probable.

Pedagogy demands, then, that we do not wait till near the normal time, lest the instruction direct the attention, increase the circulation, and cause unfortunate precipitation. On the other hand several cases are reported where girls knew nothing of it, were ashamed to tell, bathed in cold water, with the result that one was thrown into spasms, causing insanity, that was only outgrown after the reproductory period. Another was rendered insane in a similar way. A third went into spasms which resulted in death. Other similar cases are reported. The information could be given in many different ways that would not demand any alarming predicament for the parent whose false modesty is so criminally superior to his or her sense. It is cruel and barbarous to neglect this instruction.[1]

A woman said in substance: When in the High School it was terrible for me, when unwell, to ascend the long flights of stairs to chapel. I asked the principal to excuse me, sometimes. He asked, why? Of course I dared not tell him, so went, but often nearly fainted from the terrible pain caused by the ascent. She explained that she had a broad pelvis, and the bowels pressed down on the uterus, especially in ascending stairs.

A girl reports suffering and fainting from a similar cause.

Teachers should heed this warning. It would be worth more to our girls if some of the ornaments of the school building were omitted and an elevator provided. It is a fact not suffi-

[1] See E. H. Clarke, "Sex in Education." See also Antoinette Brown Blackwell, "Sexes throughout Nature," pp. 138–148 and p. 158. Also *Westminster Review*, 142; 315–318. Excellent on what girls ought to know.

ciently recognized that a girl who is well shaped and developed for motherhood, finds it very difficult to ascend stairs when unwell. It is not only wrong, but dangerous to physical and mental health to oblige them to do it.

Women writers have done harm by saying that a woman can do all that a man can do. A few of a masculine type may be able to, others would endanger their physical and mental health if they attempted it.

The hygienic treatment of boys at adolescence has been almost criminally neglected. It may be quite as injurious to a boy as to a girl to arrive at puberty with no knowledge of normal, healthy symptoms. The simple matter of night emissions, which are likely to happen any time after puberty, though perfectly harmless in themselves generally, cause fears and lead to the very worst evils, such as despondency, imaginary disease, suicide, or a plunge into the worst depths of social life.

Knowing that the young men write confidential letters about themselves to medical companies, I wrote to several such companies asking to read a few of those letters from the young people. They all replied that the letters received never under any circumstances passed out of their hands. Later I found two large letter brokers in one city, who had bought from medical companies, letters which had been written by young people, under a guarantee of confidential treatment, or by older people suffering some private ill, imaginary or otherwise. These letters are sold by the thousand, collected by brokers who rent or sell them to parties for copying purposes. One broker gave me his amount of letters in stock. He has 705,000 "medical" letters referred to above, 1,800,000 "agents" letters, 275,000 "matrimonial" letters, 300,000 to 400,000 "novelty" letters, making a total of over 3,000,000 letters in stock.

I had in my possession recently a thousand letters, mostly written by young people, and sold by these "doctors" or medical companies. It presents to view a sad feature of our social life. The people who wrote the letters were all duped by these quacks, who advertise to cure what they describe in their books as symptoms of syphilis and other terrible diseases, but which are mostly only symptoms of good health. Their prices of treatment are outrageous. One boy had paid nearly a thousand dollars for treatment. He gives his symptoms carefully and they are perfectly normal. The common ill is night emissions.

Some of these letters were written by teachers, ministers, superintendents of schools, and women, who wanted confidential advice. The signatures and addresses were all left on the letters.

It is a matter that ought to receive State and national legis-

lation. But above all our young people ought to be instructed about sex matters.

One boy had run away from a good home because he had been led to believe that he had an incurable disease. His case was perfectly normal. He had read their fiendish literature, was frightened, and dared not talk with his father about sex matters. Another boy said: "I have occasional night emissions. I am poor, but would pay $500 rather than drift on to the destiny that awaits me if I continue in this way."

Another: "Enclosed $12. One night emission last month. Have had three packages of medicine. Think one more will cure me." (He had paid $36 before.) The letters are variations of these with details not to be given here. They show that a dreadful burden of anxiety rests on the young men who are constantly plunged deeper and deeper into despair by these medical companies and "doctors" who advertise to cure such troubles. Their literature can be had by answering advertisements in local papers. This is not a light matter. It strikes at the very foundation of our moral life. It deals with the reproductory part of our natures and must have a deep hereditary influence. It is a natural result of the foolish, false modesty shown by the American people regarding all sex instruction. Every boy should be taught the simple physiological facts before his life is forever blighted by this curse.

II. *Disease and Moods.* The power of recovery from disease at this period is a tremendous fact. The change of nature brought about by change of ancestral influences often causes an entire renovation of the physical system, and diseases which existed at least in symptoms may be entirely outgrown.

Despondency at this period demands sympathetic treatment. It is entirely wrong that so many of our young people are meditating suicide. From their own statement it is because they do not receive recognition and sympathy. They have sprung full-armed into manhood and womanhood in their own feelings, while in dress and treatment they are often forced to remain children. The boy or girl at puberty demands all the recognition that any adult deserves and a greater wealth of sympathy. The wise teacher will not disregard the feelings of adolescents.

It is an open question whether the boy or girl should be urged to work when under the spell of either laziness or great activity. The forces are being accumulated, anabolism goes on when one feels dull, while energy is expended and katabolism is rapid when one feels energetic and must have activity. Each individual must be studied, fatigue noticed and the work meted out in a way to do the least harm.

We must consider that habits of work will be formed and

an endeavor to sustain periods of labor will necessitate, possibly, a levelling of these positive and negative moods.

III. *Ideals.* The universal possession of ideals affords an excellent opportunity for the educator. There are different stages. The period is one when command should give place to the presentation of an ideal, and an ideal adapted to the age and interest of the youth. In early adolescence there needs to be something heroic or self-sacrificing in the ideal.

IV. *Artistic Impulses.* The pedagogic question arises regarding the impulse to study art or music. It should be treated sympathetically and encouraged, but the most unfortunate thing that could happen would be to specialize in these branches. If great talent in music exist it will be apparent before this period, and artistic ability of a high order will show itself as such by the time of puberty. Real talent for either art or music will come to the front anyway. If it does not exist, it would be most unfortunate to launch the pupil into an artistic, musical or literary career. When talent does exist it should be kept back and culture should be broadened and deepened lest that side of the nature develop at the expense of everything else, and in order that the specialty may root ultimately in a rich and cultured nature. Special high schools, therefore, would be pedagogical monstrosities.

V. *Natural Science.* The great love of nature, compared with the distaste for science existing in the same individuals, is a blow at the present methods of killing scientific interests by the text-book method of instruction. 640 were lovers of some form of nature, while only 290 of the same individuals liked any one science. This love of nature should be utilized to develop the scientific spirit in the pupil.

VI. *Interests.* The enthusiastic interests of adolescence demand a pedagogical suggestion. The high blood pressure, the mental and physical ferment, and the potentialities or unconscious forces struggling for conscious realization, demand excitement or violent expenditure of energy at times.

"Excitement young men must have, which, like a breeze swelling new sails, brings the new nerve tissue and faculties into activity without which they atrophy. If there is no enthusiasm, deep and strong interests in intellectual and moral fields, passion is stronger. The two are physiological or kinetic equivalents."[1]

A healthy, normal boy must do something. Athletic, scientific, literary, or artistic interests, or plenty of hard work, is a necessity to keep the physical and mental life pure, healthy and growing.

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[1] President Hall, *Forum*, December, 1893: pp. 439, 440.

The enthusiasms of college life develop the college student and make him superior to one who has had no enthusiastic interests during his adolescence. It is especially noticeable in boys entering college from the large fitting schools when compared with boys from schools where there has been little except the text-book work necessary for preparation. The wildest celebrations of victories may do the boys as much good as a long period of quiet study. Of course this enthusiasm must spend itself in moral ways as a laudable outburst of *l'esprit du corps*, or it may be as injurious as it otherwise would be beneficial. If these outlets of energy are denied, immoral gratification of desire will very likely result. The aim of education at this time should be, therefore, to make the most of these interests which are harmless in themselves and not likely to become permanent, to prepare the way for a greater interest in the higher religious and moral sphere and the intellectual interests which are to become permanent.

The pedagogy of adolescence may be summed up in one sentence. *Inspire enthusiastic activity.* Hopeless is the young man who has no interest. Even a low interest pushed to the extreme will give place to a higher. The best in human nature can be brought out by making the most of these stages of development, each in its turn.

VII. *Facial Expression.* The features and countenance are the best indices of character and disposition. If these change radically we may look for a change in character, which will necessitate a change in treatment or injury will result. Just here may be the taproot of so many conflicts, runaways, and sullen, ruined, desperate lives. Many a life tragedy starts with the misunderstanding of the boy or girl at adolescence.

VIII. *Religion.* It is the natural time for the growth of the religious emotions, which are the only basis of a healthy, moral nature. Aside from all relations to a future life, the religious emotions should be regarded as the most valuable of all for immediate results in character. The new birth is no myth, but a fact, admitted by science as well as the church. Religion does not mean subscription to any particular creed. This mistake has been made. The Christian Endeavor movement is a great witness to the fact that religion without particular denominational creeds meets the needs of young people. If the religious emotions are thus cultivated until they are established, the particular forms will adjust themselves with little harm to the individual.

The worst thing that can happen is early forcing of the religious emotion and the subsequent relapse. The religious feeling often comes in waves of increasing intensity. The first may appear in very early childhood, but they reach their maximum

about 16 with the average person. At least 16 is about the average age of conversion for the 600 who answered this question. Each religious wave should be treated sympathetically, but public expression of any particular belief should not be urged before 15 to 20. We should hardly advise marriage when young persons speak for the first time of admiration for each other. It is too sacred a relation. The religious life is far more fundamental in character and more sacred in its relation. Early acceptance of God or Jesus will be urged with extreme discretion by all wise, religious teachers, until the religious nature has been cultivated by a general development of the religious emotions. A study of the cases given under the love of nature will suggest the best method of development. After the nature stage, present the ideal. Hold up noble, religious lives, and let the suggestion leaven the whole nature.

Religion must not be neglected. The welfare of the family and the State depend upon it as much as the interests of the individual soul. Doubts and intellectual questions should all be put off till a later period. The emotional side of religion should dominate childhood and adolescence. It is not the age when fear appeals to one. Adolescents will sacrifice and perform duty for the Master as at no other time in life. Instruction should take the form of an appeal to free, spontaneous loyalty to the King, and Jesus should be presented as the ideal, heroic God-man. His self-sacrifice and self-denial, his suffering and passion may be taught with the assurance that they will appeal most strongly to the soul-life of the adolescent.

Details of school organization and management, and curricula best suited to adolescents naturally belong to this study. The writer has made such a study and may embody the results in another paper.

DIFFERENCE BETWEEN CHILDREN AND GROWN UP PEOPLE, FROM THE CHILD'S POINT OF VIEW.

[ABRIDGED.]

By MARY LOUCH, Ladies College, Cheltenham, England.

O wad some power the giftie gi'e us
To see oursel's as others see us!

Such a "giftie" I now present to you. I have had in all some 530 of them showered upon me, contributed by boys and girls of various social classes and of ages varying from 6 to 16. Of these about one-sixth were written by boys; and chiefly by children of 9, 10, 11 and 12 years of age. So far, I have not had time to classify accurately the remarks contained in them nor to draw up tables of statistics; I have used the papers merely for suggestive purposes, and can only offer the roughest outline of the difference between grown up people and children as sketched by juvenile hands.

PHYSICAL DIFFERENCES.

One of the most obvious differences is naturally that of physique.

(a.) First there is a difference in size: "the great difference between men and boys is the size and age;" "Grown up people are taller" —but elder children remark that this is not always the case, for some children are taller than their parents "and have better figures;" three say "A man is generally taller than a boy, except when he is deformed;" another, "men are larger and a lot older than boys;" another, "some children are bigger in length but not in breadth." "Ladies and gentlemen have larger hands, eyes and ears." "Men's voices are harsher than boys." "Grown up people have their wisdom teeth." (This is remarked by several.) A girl of 10 begins: "Old people have wisdom teeth, they were born before young people and are older in years and in ways."

"Grown up people have stopped growing and I suppose they have sobered down;" says another, "because they don't seem to want romping and noise or even to have such large appetites as children have, and they never do seem to understand that you must make a noise to let your spirits off sometimes, at least governess don't."

One boy writes very definitely concerning size differences: "I am a child myself, and my father and mother my eldest sister and brother are grown up persons; my other brothers are children. Now I think the greatest difference between us is this: My father, mother, eldest sister and brother are so much bigger people than us children. I mean by bigger so much stronger than us. For instance take taller first. I am only 4 feet 2 inches while father is 5 feet 10 inches and if I put his jacket on it would seem more than a big overcoat on me. Then as to strength, I could not carry our coal scuttle without being very weary, whereas I have seen father carrying it all over the house and turn a stiff gas on afterwards that I could not move. But for all that I can beat him at foot-ball. Then another difference between us is that grown up people can write ever so many letters in no time, fasten them

up, and direct them and send me off to the pillar box to post them before I know where I am. Now there must be an enormous difference between us there, for I had the other day to write a card to Rush & Warwick saying I had found one word spelt wrong in their Time Table. I had but 6 or 7 words to write in all but doing that and directing it, squaring my elbows and writing first with one knib and then with another did take such a time. I cannot think how grown up people can be so unwise as to write letters at all."

(b.) We come next to strength. "There is little or no difference," says one, "in the shape and make of grown up people and children, except the children are not so strong." "Grown up people," says another, "are stronger both manually and intellectually and so they are able to do more work with their brains as well as with their hands." This increase in strength is accounted for in various ways: "As you grow older you get stronger, that is because your bones grow and make one bone, as in the arm." The subject of bones appears to be a favorite one. "Some people who are grown up often break their bones because their bones are so hard." Another says: "A man is stronger because his bones are brittle." "Boys can do gymnastics but men cannot, owing to the small bones at the end of their back having become joined together, except in the case of clowns who do jumping and tumbling from their childhood." A little boy of seven says, pathetically, "Big Popel are stronger than small popel and when they slap them it hurts more than little popel."

(c.) With regard to agility. "Boys can run a lot faster than men;" but, says another, "grown up people can walk quicker they have longer legs and arms, they are more muscular and can lift heavy weights." Another child with different experience says: "Grown up people cannot work so hard nor walk up and down stairs so many times a day because it tires them out." One little girl says: "Grown up people can read big books like Tennyson, write and swim better but they cannot run nor whistle nor skip half as well as children." Though grown up people may be deficient in respect of whistling and skipping, yet it is conceded that they can make puddings, iron, wash, make frocks and cloaks, which children cannot do.

(d.) We come next to appearance. The different fashions of wearing the hair is the distinction most frequently noticed. Grown up people, if women, have long hair, children have short hair; "When a grown up person has long hair she does it up on her head with hair pins and the child does it up with ribbons." "Men's hair goes gray but boys do not." "Grown up people have gray hair and wrinkles," the latter being invariably accounted for by the fact that grown up people have had so many troubles connected chiefly with children.

(e.) Many children comment on their own restlessness and love of activity. "Children do not want to sit still but grown up people want to sit still," "and they are never tired of play and never ready to go to bed, whereas older people are glad to get their work done and get to bed as soon as they can;" and another says: "Children like romping games and racing about, they generally like to do things that grown up people don't like them to do, they like going to bed late and having bolster fights."

(f.) With regard to health of grown up people and children, most give it as their opinion that the latter are healthier than the former. One child says that children are more delicate than grown people and accounts for it as follows: "Grown up people are much healthier than children because in olden times, the children used to be fed on much plainer food than children are now."

(g.) The relative quantity of food eaten seems to be of special in-

terest to the boys. Very few girls speak of food at all. Many appear to realize that children need much food for growth, while men need much food for their hard work. Boys like cake and sweet things and drink lemonade and soda water, but men don't care for sweets and sometimes drink wine and spirits and get drunk.

Mental and Moral Differences.

"Some men have more brains than boys have, and they are not so stupid as boys are." Learning lessons is said to be much easier for grown up people, yet all are not of this opinion. A child of 8 says: "If children are taught anything, they seem to take it into their minds, but if a person tries to teach an old person what he never has known, the teacher might stay a very long time before he could grasp hold of it." "Children jump at an idea," says one, and another says: "children have simpler ideas; children speak their first thoughts and think it does not matter whether they are right or wrong."

That grown up people have more sense is the unanimous opinion, so far as expressed, and generally for one of three reasons: "they have been longer in the world," "they have been out in the world," or "they have read more books." Children seem quite conscious of the smallness of their store of information. One little girl says: "Children can't tell a story, and I could n't tell all about the Israelites and Gibeonites as papa could." That children are generally happier seems a common opinion. A little girl, who was ill, said the other day to her mother: "Mummy, I feel quite tired and miserable like you, you know, and little children ought not to feel that way, only big ladies." One child would not wish to be grown up because "grown up people have a lot more to think of both in thoughts and habits than children." "Children do not have sad things as elders do to worry and upset them, another thing is that children play with the pretty things they see and elders have to work and buy things that children get hold of and break in their amusement."

A child's cares are chiefly connected with school and lessons. The cares of grown ups appear to center in the mother and to be connected with husband, children and household expenses. After describing all that mothers of a family have to do, such as sitting up at night, a girl of 11 says: "Women have to look for their husbands while we have to sit down and wait." Again, "Grown up people have a great many cares, and one of these cares should be to *make children happy and keep them from care*." "Women sometimes have to stay at home and clean it while the children go and have picnics in the wood. They (the women) have to buy their clothes, while the girls are playing and tearing theirs." "A mother's work is to cook the dinner, scrub and work and do all sorts of things, when a child has got none of that to do. A child has got her own business, and a woman has got more than that." "I think that all parents, in fact everybody older than ourselves should be pitied, because they nearly always have a lot of trouble to keep them awake at night."

That the example of grown up people is readily followed by children, and should therefore be a good example, is expressed by many. "Grown up people ought to set an example to children." "If our parents do anything, children try to copy them, and it is best for the parents not to do wrong before the children, as they would go and copy it." "Children are generally very quick in doing things that is not right, what they see grown persons do, and they are not always quick in doing what is right."

Children make very few remarks about language. Grown up people use longer and harder words that the children have not learned to un-

derstand, and some are uncomfortably conscious that their parents have had less education than they themselves have.

Children say that they are more timid than grown up people, but give very few specific instances. One trait of childhood is brought out, namely, the fact that children are afraid of noises they don't understand, and that they will stand fearlessly in the most dangerous places.

As to temper, children criticise their elders freely. In their endeavors to train children to be polite they are very likely to snub them, seeming to forget that they themselves were once children. Grown up people are not so hasty as children, but their temper, when roused, is more serious. They are more patient than children, who are always longing for Christmas. Sulking is considered very naughty, and is mentioned as a failing common to many children. Little children are very affectionate, and grown up people are often cold and keep them at a distance.

The younger children say very little about the future, but some of the older ones look forward to growing up, the boys showing more realization than the girls. Boys look forward to doing as they please and making their way in the world. An elder girl truly says: "A child never thinks of what is going to happen, the only thing that concerns it is what is going on at the present time."

Manners and Morals Generally.

"The difference is grown up people have more manners, children have got to be told to behave; grown up people are more gentle, children are very rough and careless." A boy of 9 says: "Big people shake hands nicely, and say 'How do you do?' Children don't say anything polite." A little girl of 8, writing of the manners of ladies, says: "They go in trains and lady look out of train window, and lady wear spectacles, and lady never whistle." "Grown up people are more polite, but usually so stiff and affected, children generally are naughty and not stiff." "Grown up people are always anxious that their children should behave well and talk nicely; children sometimes do not care how they behave and talk." "Boys have to be taught their manners." "Some boys don't know their manners, that is because their mothers don't bring them up properly and so they cannot keep a place of work." "If not taught properly, children will say silly and rude things at the dinner table."

Cleanliness is said to be next to godliness, and children apparently consider cleanliness a cardinal virtue. "Sometimes when children are sent to school with nice, clean clothes and their boots cleaned nicely, they play about and get their boots muddy and their clothes get dirty and they go to school very dirty." Again: "Some children obey their parents and some disobey and so they get whipped. Some children go to school with clean clothes on and some go with dirty clothes on. The boys and girls who go to school with dirty clothes on is the ones that disobey their parents."

The subject of obedience is not as freely discussed as one might expect. Children appear to realize the practical utility of it at least and to trouble about little else. A child says: "A child is supposed to do what they are told; generally it is the lazy people that do not do what they are told." The reason for obedience is thus stated by one: "We ought to obey people older than ourselves, because when we get older we shall want everybody to obey us—that 's why we ought to behave ourselves so that when the little ones disbehave we can correct them." Others dimly realize that grown up people have to be obedient too. "Children have to be obedient. Grown up persons do not always be

obedient because they have learned in their childhood that they should be obedient to those who have the care of them." Another says: "Some men lose their place of work through not doing as his master tells him and sometimes they don't get any character through not doing as he was told."

"If a child has done anything wrong," says one, "the grown up person ought to correct it, but if a grown up person has done anything wrong a child has no business to tell it her." A kind little girl of 9 says: "When a grown up person has done anything wrong, a little child ought not to take any notice." Another recognizes the difference between the arbitrary punishments of childhood and the natural punishments of adult life. "If a child tells a fib, he is whipped or put to bed or put in the corner, if a grown up person does the same, his friends do not trust him as they did before and then his punishment is not exactly acted towards him but only thought."

To the faults of children the juvenile writers are somewhat more lenient. "Boys are cruel to horses." "Boys are too lazy to clean their boots, to go to Church or Chapel." "Some boys are so common and lazy that they are not fit for anything but play at bad behavior." "Some boys think it fun to be dirty or let their mothers do all the work." "Some boys like fun with old women and throw snowballs at them." "Children are selfish," but says another: "Some children who have anything given to them will part it between their brothers and sisters." "Children often quarrel about nothing and they have to get some elder person or nurse to settle the matter for them and if the nurse happens to go out of the room again, they begin again and it generally ends up in a fight and the younger of the two is generally crying." With regard to sympathy, opinions differ. One says: "Children take pity on any person or thing suffering, much quicker than their elders." Another girl, writing her views in the form of a letter, says: "Children have their parents to go to when in trouble, but their parents have to nurse their own grief. Dear Edith, why don't people tell their children their troubles?" "When a child is in great trouble, it seldom goes to another child for sympathy, it generally goes to some one who is grown up, as an older person is better able to advise the child what to do and how to get rid of the trouble." Another says: "Children often treat you with more kindness than a grown up person."

One weakness of middle life does not escape the sharp eye of childhood. "When people are grown up, they try to make themselves much younger than what they are and do not say very much about their birthdays, but children like to say how old they are and when their next birthday is."

Two children say: "Grown up people are responsible for their actions, especially for saying and doing unkind things, while children do not know when they are doing unkind things." "Children hate being laughed at," says one, "and grown up people do not mind; children are very sensitive and grown up people do not think so and say all sorts of things that children do not like."

Children are painfully familiar with the vices of adults; men drink, swear, gamble, steal, fight, insult gentlemen, beat wives and children, are spiteful to horses, dogs, cats, etc., starve children and are sometimes murderers.

Habits and Occupations.

We may roughly class the rest of the children's remarks under the head of habits and occupations. That children go to school and grown up people go to work is the difference noticed more frequently than

any other; about two-thirds of the writers comment on it. "Grown up people like to work" or "are more ready to work" whilst "children do not like to work" or "shirk work" or "might do more than they do," nevertheless, "some children try to help one another." One child says: "Some men are to lazy to work and his wife has nothing to give her children." Another, "Grown up people have to work, some of them are lazy and do not like to do anything and stop at home doing nothing."

Children have no mercy for grown up people who do not work, but they are doubtful about the necessity of work for themselves. "Children require play but older persons do not think of such a thing but are more adapted to work." Several say that children's work is to "go on errands," and another, "children ought to do as much as they can to help their parents that is the children's duty." It is remarkable that in these papers not one child speaks of its play as work. They distinguish very clearly between work and play. A little girl of 4 who was asked her opinion on this subject of differences said: "Little children only play and grown up people put out teas and sugars and take away the breakfast things and make gingerbreads." Another says: "Children can go out into the fields and pick flowers and in the hay fields, but grown up people have to wait till they have done their work."

As might be expected, children are very prolific in ideas about *school*. They generally regard school as a necessary evil, as a bitter pill which will do them good eventually. "Children do not care much for school, but older ones know that it is good for them to learn." "Boys don't like to go to school because they have to do many lessons and it often brings illness on them and then they have to stop at home for a long while." Another writes: "A great many boys think that schools are of no use and would not go to school." "Sometimes the boys and girls are sent to school and they do not go." One child connects all the trouble of early life with school. "Some people have the responsibility of a house on their shoulders, while children, who are generally at school all day, leave all their troubles there." Teachers might be rather surprised to hear what children themselves expect to gain by going to school. A boy traces the growth of a man from infancy and says: "A few years afterwards it is sent to school to read and write, to sum and fight." School is generally regarded as the means (disagreeable at best) of getting "a character" and a situation afterwards. "A great many boys think that schools are no good to them but it is wrong because the schools are built for their own profit. If it were not for the schools they would not be able to get situations after they had grown up, so it is wrong to say schools are of no use." The exchange of school for work is a common theme, and the immorality of leaving school while in the 5th standard is frequently commented upon. "When boys are at school they wish they had left but when they are at work they wish they were back at school."

We come next to "*toys and play*." "Grown up people like to keep indoors—children like to be out of doors." "Children like as well a good cold winter so they can go snowballing but some old people dread the coming of winter." Little is said about dolls. "Children, especially girls, amuse themselves with a rag doll for hours and hours together, but older people like to read a good book." The amusements of grown up people after children are sent to bed are frequently spoken of with envy—the whole subject of going to bed is generally a sore one. One child begins with this difference: "Grown up people go to a lot of amusements and let the little ones go to bed while they go and enjoy themselves, because it is not fit for children."

Speaking generally, a very little one remarks: "Big people like things that little people don't care for, we little people can't understand how the big people like it if we don't."

General Estimate.

"People should always speak properly of each other and children should always speak respectable of their parents," is an ethical suggestion which has perhaps not always been carried into practice in the above, yet, on the whole, they may be said to hold the opinion expressed by a girl of 10 that "grown up people are in a hiear class," and that "grown up people are of much more importance than children;" also, "it seems to a child as if he never can become as old and as wise as the older people he sees about him." Some there are who discuss the whole question very summarily, as does the 12-year-old writer of the following—I append the whole of his paper: "On the subject of grown ups I have certainly not much to say. In some parts of life they are a great nuisance such as school, etc. I think it would be much better to remain always boys. I don't know what sort of a grown up I should like to be. They do not form any part of my studies during the term except to see them. Finis." One who sees the humorous side of life states, generally: "Children are very amusing but so are grown up people in different ways." Another regrets that she must be grown up some day: "I do not want to be grown up much but of course that cannot be helped." An 8-year-old says: "There is a great difference in houses where there are children and where there are not. A house seems more pleasant and happy where there are children than where there are only grown up people."

These 500 papers are a rich mine for the research student. We cannot pretend that any scientific truths can be arrived at by examining them, but I feel that as a means for suggesting research, their value is very great. If they tend to nothing more than the fuller realization that there's indeed "a chiel amang 'us' takin' notes," it will not have failed of its purpose. Truly, as a little girl of 12 says, "In God's sight we are all children, both old and young ones."

A NEW ASPECT OF CHILD STUDY.

HARRIET A. MARSH, Detroit.

It is often said that the constantly increasing complexity of civilization necessarily gives rise to a corresponding complexity in its demands upon education, but it may be gravely doubted whether these needs have not always existed, in certain measure, but are now being rendered more apparent by the gradual decadence of certain institutions and the slowly growing intelligence of the masses. However this may be, the average parent has begun to show, within the last decade, a very distinct consciousness of two great needs — first, the necessity of a more rounded development for the child, a development which shall recognize to the full the requirements of his spiritual and physical natures and the almost total dependence of one upon the other, and, second, the parent's utter inability to cope, alone, with this great problem, and his consequent demand for assistance.

It is perhaps unnecessary to trace this first great need through the many causes which have entered into and aided in its growth, or to inquire the extent of its power at a time when simpler modes of living and the comparative absence of emigration rendered home life more homogeneous and less distracting; it is sufficient for our purpose that we recognize its existence, from the time when the Puritan conscience, the American climate, and the ever increasing exactions of civilization entered into combination against the human race — its subsequent history is ours; it has grown with our growth, unnoticed and unsuspected, until its hydra-headed form now blocks every road to progress, and fills the more thoughtful with uneasiness and alarm.

The second need is but an inevitable attendant upon the first. Intelligent and conscientious parents are beginning to feel the necessity of more co-operative assistance in this the primary work of the human family; and to acknowledge that early marriages, insufficient education, multiplicity of cares, and lack of time for self improvement render them incompetent to fulfill this trust unaided and to demand assistance outside the home circle. That this demand should fall, with all its weight of responsibility, upon the teacher is also inevitable, not because she is always so well fittted for the task, but because she is generally better fitted than the average parent, and also because her peculiar relation to and knowledge of the child give her a truer insight into character and requirement than can be gained under any other circumstances.

Granted that these statements are true, and the economics of education may demand a close co-operation between parent and teacher, as the next and most progressive step to be taken in the near future; community of interest has always woven the strongest bonds known to the human race, and outside of the immediate family relations, what closer tie can be found than that which exists or should exist between mother and teacher? Both are engaged in one common task — the training of an immortal soul for eternity; how can either work most intelligently without a knowledge of the other's aims and plans?

Think of the mistakes, the misunderstandings, the anxieties, the tears which might be avoided under this suggested co-operation, and

then tell me whether the public school can reach its highest degree of usefulness until mother and teacher meet on common ground, as members of the same family, to consult together concerning their common charge; until the mother is a frequent and welcome visitor in every school-room and understands, as well as circumstances permit, the aim and object of the teacher's work. Such a relationship would do more to improve and elevate the home, more to shape the rising generation, and more to fix the teacher's true position in society than can well be imagined; and all might be brought about so simply and naturally, the benefit would be mutual and the teacher's sphere of helpfulness bounded only by the limitations of her own heart and brain.

Under a strong belief in these principles, the following experiment has been made:

The Hancock School, Detroit, Michigan, numbers about six hundred pupils, four-fifths of whom are of American ancestry, the remaining fraction claiming parentage almost equally from the English, Scotch, German, Irish, and Canadian; few are very poor, and few, if any, very rich; the majority being honest, industrious, hard working people who are buying their own homes and making every sacrifice to secure educational advantages for their children. People of good average intelligence, with a keen interest in the religious and political questions of the day; a fair representation of America's most useful and influential citizens — the middle class.

At the time our story opens, it had been necessary to make some change in the corps of teachers at the Hancock School, and, in spite of all effort on the part of the Board, advantage was taken of the then-prevailing political issues, and a very bitter party spirit was infused into the questions at stake. The principal was new to the school and the locality; so were two-thirds of the teachers; what could bring harmony, and quell the spirit which threatened so much mischief?

This question received no definite solution until Dr. Hall's Syllabi suggested the feasibility of a Mothers' Meeting. Preparations were soon made, a circular announcing the date and object of the gathering was sent out, and twenty-four mothers met me on the second Thursday in October, 1894, to inaugurate what has since proven one of the most helpful and inspiring movements ever undertaken in connection with our school work.

The address was in substance as follows:

My dear Friends,— We have come here to teach your school, the primary object of which is to make, or to help make, honest, healthy, useful men and women; we cannot do this without your assistance, and, in our work, shall doubtless make many mistakes. If you will tell us of these frankly, we will gladly correct them whenever it is possible to do so; when it is not, we will give our reasons for refusing. Will you not join with us as sisters of one family, working for one common good — the welfare of your children and ours?

A set of simple questions from the syllabus on "Dolls" was distributed for study during the month, this subject being chosen as one with which all parents are moderately familiar and also because its strangeness might attract the attention of others who had not attended.

In November, forty mothers came, all of whom seemed interested, but afraid to talk; and many little devices, such as calling upon certain members for their experiences, asking the opinions of others, and showing the gratitude I felt for the answers given, were resorted to. The fusilade of questions was kept up in spite of the most discouraging, monosyllabic answers. Every one was drawn into the dicussion, and, after a time, we were rewarded by a few spontaneous remarks from the more courageous and daring. Several old ladies gave their hus-

bands' experiences, and a small delegation of the timid remained behind to express opinions it could not voice in the general assembly. The results were most interesting. From what could be gathered, it seemed that several fathers had taken an active part in formulating some of the many ideas expressed, a careful study of which gave three distinct lines of thought, as follows:

1st. The absolute need of all children (especially boys) for pets.

2nd. That boys would make better fathers and husbands if encouraged to play with dolls.

3rd. The absolute barrenness of imagination in children of purely American ancestry, as compared with those of English, Irish, Scotch or Canadian parentage.

"Children's Cries," "Fears of Childhood and Youth," "Childish Superstitions," and other topics of similar character — all taken from the syllabi — were studied at our meetings which were now becoming useful in other ways than those originally considered. Little points of discipline, such as tardiness, coming too early, mutilating neighbors' trees, loitering on corners, with many kindred topics were brought up at the close of each discussion, the mothers giving most hearty and intelligent co-operation as our own reasons for such discipline were learned; in fact, this mode of procedure has grown so helpful that a note book is now kept on my desk during the month, in which each teacher is at liberty to jot down any point she wishes brought before the next meeting.

These are carefully compiled and occupy their own place in the programme, under the head of "Other topics of interest." As a single illustration of the advantages which may arise from this mode of procedure the following is given: During the year 1894–5 an epidemic of diphtheria raged in the city and the Hancock, in company with every other school in the city, was closed several times on account of this disease; at every meeting of the present year, attention has been called to the prevailing tendency of children to stand in the damp, and pupils have been constantly cautioned against exposure to early morning air unless protected by proper clothing and sufficient breakfast. There may be a possible connection between these precautions and the fact that the Hancock is the only school in the city in which scarlet fever or diphtheria has not occurred during the current year.

By the end of June, '95, our society had begun to realize some of its possibilities. One of the members had written an excellent paper on, "Do Boys Require as Careful Moral Training as Girls?" which resulted in more strenuous efforts to suppress the cigarette habit and other evils to which boys are exposed, and, at the last meeting of the year, an unusually large number came to elect a secretary from their own number and to present a list of topics for the next year's discussion.

(Copy of Letter sent out in September.)

HANCOCK SCHOOL, Sept. 9, 1895.

To the Parents of Pupils attending the Hancock School:

MY DEAR FRIENDS,—

Our school is now commencing its fourth year, and we are very anxious to do for the children all in our power. This cannot be accomplished without an individual knowledge of each child, and this cannot be gained until parents and teachers work together, as members of one family toward one common end; will you not, therefore, try to become well acquainted with your child's teacher during the coming year, so that you can talk freely to her concerning your child's needs?

Our next Mothers' Meeting will occur Tuesday, Sept. 24, at a quarter to four; the following subjects will be discussed:

1. What should the public school do for the child?
2. The duty of each parent to the truant law.
3. The amount of money each child should spend for supplies.
4. Other topics of interest.

Hoping you will kindly make an effort to be present, I am, with sincere wishes for a happy, prosperous year,

Very truly your friend,

HARRIET A. MARSH.

HANCOCK SCHOOL.

HARRIET A. MARSH, President. MARY A. C. PATTERSON, Secretary.

LIST OF SUBJECTS FOR MOTHERS' MEETINGS.

September, 1895, to January, 1896, inclusive.

SEPT. 23. (1) What ought the public school to do for the child? (a) Should the government in school and that of the parent conform? (b) Three requisites of good government. (c) Necessity of teaching self-control. (2) Duty of parent to truant law. (3) Economy in school supplies.

OCT. 24. Good health is necessary to good mentality and morality. Three things conducive to good morals: (a) Healthy constitution at birth. (b) Proper food. (c) Proper care of the body. Care of the teeth.

NOV. 21. Effect of different foods upon the body, as bone, muscle, and flesh-producing foods. Some ways in which food may lose its nutritive qualities by poor cooking.

DEC. 19. Intemperance. (a) In how many ways may parents be responsible for their children's intemperance? (b) Intemperance in food; in drink; in pleasure. (c) Use of tobacco. (d) Necessity of teaching self-control in all things. (e) Relation of poor food and poor cooking to drunkenness.

JAN. 21. Diseases. (a) How dangerous diseases such as small-pox, diphtheria, scarlet fever, etc., are spread. (b) Best means of prevention. (c) The germ theory.

Please *preserve* this outline for future use.

Fifty-four women met in September to consider the above lists of subjects which represented, in the main, the topics chosen by themselves at the preceding meetings.

The key stone of interest was reached, however, when we commenced the study of physical needs in October. Sixty-two members were present, and from the ill concealed anxiety shown in many of the questions asked at this and subsequent gatherings, the vital need of instruction in this direction was plainly shown.

To illustrate, somewhat, the line of thought followed by these mothers, extracts of their discussions are given as nearly as possible in the language in which they occurred.

The first question brought under discussion was the relationship of good morals to good physical health. See outline for October.

About seventy-five per cent. of the members seemed to consider this proposition unsound, but when questioned: 1st. "Do certain kinds of food ever make you uncomfortable, ever give you the headache, ever cause dyspepsia, etc.? 2nd. Do these physical conditions ever affect your temper, influence your speech, your treatment of

others, or cause you to punish the children for actions not, in themselves, wrong?" a general assent was given, and, by carefully leading up to the subjects, an intelligent recognition of the principles put forth in 1 and 2 was gained.

3rd. What kinds of food should be given very young children if we wish them to have good teeth? The Scotch and English seemed to think that mothers should make oatmeal an article of diet for themselves and children, beginning this regimen by giving the child milk to which a very little oatmeal had been added, and gradually increasing the quantity as the child's stomach became stronger. The question whether unpalatable food is beneficial or nutritive in any marked degree now arose and was answered by a prompt and decided negative.

It was generally agreed that oatmeal should be made a much more general article of food than at present, and that "Rolled Oats" is the best preparation for family use. *One* mother, aged 79, of New England birth and ancestry advocated the superior qualities of boiled wheat meal as an article of children's diet, advancing, in support of her theory, the statement that she had raised a family of eleven children to hearty, healthy maturity, on this as a staple article of food; she also stated that her family had always been vegetarians. No one supported the old lady's opinions, and, in the interest of science, I wondered if diet had anything to do with the fact that one of the eleven children is insane, one other so nervous as to appear mentally unbalanced, while two others died under thirty of consumption. In justice I must add that another daughter living in the East is considered an artist of some ability, and the rest, living out of the city, are unknown to us. How to make oatmeal more generally palatable was then discussed and resulted (in the few weeks following) in various experiments in the making of oatmeal porridge, gruel, cookies, bread, snaps, etc., samples of which, with the recipes for making them, were sent me.

The mothers concluded that too much sweet food injures the teeth in two ways, first by its direct action upon the teeth; secondly, and more powerfully, by the acids its use engendered by causing a disordered stomach.

It was generally concluded that a judicious quantity of pure sugar candy is good for the child, that the craving for this sort of food arises from the fact that sugar supplies heat to the system much more rapidly than other foods, as butter, corn meal, etc.[1] A number, about 10%, considered the adulteration of candy with white earth, the undesirability of coloring candy green, etc., and decided that ordinary lump sugar and the old-fashioned sticks of barley sugar and lemon candy are the best preparations of this kind of food.

It was generally conceded by all who spoke that Germans and Scotch have the best teeth—Irish the poorest. Germany's general diet of rye bread and pumpernickel was given the credit for this, and much stress was laid upon the fact that these articles of food are always found upon the tables of rich and poor alike. Pumpernickel was considered to possess a two-fold value, inasmuch as its hardness gave the jaws and teeth much needed exercise.

The Irish were supposed to have soft teeth because of their potato diet, and in support of this theory was stated the opinion of a Detroit dentist, a very intelligent scholar, who tells us that the Dental Associations all over the country, have tried for years to find some suitable

[1] Editor Bok, of the *Home Journal*, is responsible for the statement in regard to sugar. If he be correct, why does not the child show a similar craving for butter, which stands first in the list of heat-producing foods? What of the Esquimaux child?

filling for the teeth of American people of Irish descent, as the gold and other substances used are too hard for their softer teeth; he made the same complaint in reference to the teeth of people not Irish who live in Ireland until they are sixteen or older.

4. Do decaying teeth ever cause lung or throat trouble, disorders of the stomach, etc.?

Many of the mothers present gave a touching, personal testimony to this truth, and all agreed that these decaying substances, dropping or falling down the throat, were highly productive of these evils.

Soap, in very sparing quantities, was considered destructive to the animalculæ collecting upon the teeth and to the germs of diphtheria in their early development. Precipitated chalk was recommended as a dentifrice; first, because it neutralizes the action of the acids in the mouth, and secondly because its mode of preparation precludes the possibility of its scratching the enamel.

The cheap tooth brush was denounced because the hairs becoming loose are apt to pierce the gums or get between the teeth, thus giving rise to inflammation.

Gum chewing was found injurious, inasmuch as it kept the salivary glands in a state of constant action, causing undue and exhaustive secretion of saliva, and keeping the stomach in a state of expectancy.

In November the discussion of foods and beverages took a wider range, as follows:

1. *Question.* Are the children of the present day as fond of fruit as the preceding generations? If not, why? Is it a natural step in man's evolution, or is it caused by the child's growing fondness for, or habit of gum chewing, cigarette smoking, etc.?

This question arose from the fact, that, within the last ten years there has been a gradual diminution in the number of apples brought by the children for consumption, at recess. Various answers were suggested. 1. Apples have risen 50% in price during the years mentioned. 2. The little candy shops no longer have the pyramids of apples standing in the windows, as formerly, and the children, not seeing them, buy other things. Other facts brought out were: 1. That as demand generally regulates supply, the shop-keepers lessened their stock of apples because the children cared more for other things; or else, that the confectioners created a demand for goods yielding greater profit. 2. That although fruit is much dearer than formerly, children, having more spending money than immediate predecessors, could buy it if they desired. 3. That the amount of candy, gum, cinnamon and cigarettes consumed, had gradually increased. 4. That the consumption of more highly flavored candies destroyed the desire for apples. 5. That gum chewing, when excessive, probably produced a craving for something slightly stimulative; that cigarette-smoking did the same in much greater degree. 6. That gum-chewing led the way to tobacco-chewing, in many instances. 7. That both, by excessive excitement of the salivary glands, were conducive to the habit of spitting. 8. That spitting produced (under aggravated conditions) a necessity for stimulant, or might result in consumption. All of the above is an expression of very general assent to thoughts and questions, in many instances suggested by myself with the object of starting a discussion. The *assent* to these suggestions, however, was general and hearty, showing that although some of these thoughts had not occurred to them before, their experiences on these points concurred with mine. We now come to their original and unassisted expression.

Which is better for children, coffee or tea? 1. A girl of twelve, very nervous, also a boy of fourteen, both children born in this city, mother

American, father of German descent. Both seemed to need the stimulative effects of tea, although they were not allowed to drink it very strong. Suffered loss of appetite without it (especially the girl) and seemed to need it after long fasting or when fatigued. The younger children of the same family do not care for tea and do not seem to need it. The mother, herself, is not very strong and finds herself "unable to do anything before she has her coffee in the morning." An old English woman, who has lived in America since girlhood, also expressed the same need of coffee in the morning, and from 10 to 20% of the entire company (nearly all Americans) acknowledged the same habit.

One German woman (husband German also) has two girls, born here. One is of natural size and mental strength; the elder (aged 16) is a dwarf, looks like a plump child of 8, and is mentally developed about as much as the ordinary pupil of nine or ten; is also very slow of expression. The mother stated that this child seldom drinks, either at table or between meals, and would not taste tea, coffee or milk from earliest infancy; the younger girl follows the habits of ordinary children in these respects, and the poor mother seemed anxious to know if her elder daughter's peculiarity arose from or was the cause of her defective organization. I remembered reading that an excess of certain fluid matter in the system caused undue growth or size as that of giants, and the reverse was true of dwarfs, but my extreme ignorance on this point rendered me careful of expression, though I wish very much for more opportunity to study this subject and wonder if all dwarfs show this peculiarity; also, if the opposite is true of giants.

All the mothers (except two mentioned) strongly deprecated the use of tea by children, thought warm milk and water at meals much better, and said children would *never* need the stimulative effects of tea unless trained to drink it from infancy. As for themselves, tea was, in the majority of instances, a necessity brought about by the habit of a lifetime. That black tea and uncolored Japan were the only brands allowable, and that Young Hyson should never be seen on the table.

Coffee was received with much greater favor, several of the mothers told me it was "like meat," and at least 50% of the assembly allow their children a cup of weak coffee in the morning because as they said, milk was more expensive, not so agreeable to youthful palates, and less productive of warmth and nutriment. About 10% said the children would not eat breakfast without it. One American woman living with Germans, considered cold, strong coffee better than brandy as a remedy for heart failure. An Irish woman, also an American, concurred.

Three of the mothers (American) thought the use of tea or coffee *might* lead to intemperance, and advocated warm water as a beverage at meals, or a combination of one-third coffee and two-thirds water, while the whole assembly seemed quite anxious on this point though unable to advance any decided opinion.

The general idea was that coffee should not be given to a child of full habit, rapid pulse, etc., that it was more adapted as a beverage to use in cold weather than warm, and might be beneficial, if taken in small quantities, to children with weak circulation, as indicated by blue finger tips, etc.

Reference was here made to the robust Polish children who bring a noon-day lunch consisting only of black rye bread and black coffee, the latter in large quantities. Opinion stated that this "coffee" is a decoction of toasted bread, grains, etc., sweetened with molasses. Hence it did connect with subject of discussion.

Spices. Several of the parents brought out the idea that highly seasoned food was injurious to children, except in cases where the stomach needed stimulative food, that it created thirst and was a great cause of intemperance among travelling men. This statement received a general assent.

One woman (American) recommended the use of cocoa as a beverage, but only two agreed with her, the others seeming to regard it as undesirable. One American said it "thickened the blood," two others, that it was too heating, produced flesh too rapidly, etc.

Intemperance. The women here entered into a general and somewhat assisted discussion of the relation of food and poor cooking to intemperance, and expressed themselves very strongly as follows:

1. That very frequently intemperance arises from thirst, or craving for stimulant.
2. That this craving is often caused by weakness of some organ, as liver, etc.
3. That this weakness may be inherent, as the result of insufficient nourishment, particularly in early childhood.
4. That it is necessary to learn what foods are best calculated to supply the nutriment needed by different parts of the system, and to practice the modes of cooking which will best preserve the nutriment contained in each.
5. That careful study of these subjects, will do much for the cause of temperance in succeeding generations.

An American gave as her opinion, supported by the alleged testimony of physicians, that the use of tea by very young children was conducive to kidney trouble.

One woman (Dutch) said that a catholic priest stationed among German laborers expressed to her his firm conviction that the direct cause of much of the intemperance in his parish was found in the poor, innutritious bread consumed by these men.

A general discussion of the length of time that primary school children should go without food, then followed.

It was generally agreed that pupils of five or six years should not fast more than three or four hours, and that some slight refreshment, as a bit of bread and butter, a biscuit or an apple should be brought for the short intermission occurring at 10.20.

The following thoughts were also brought out: Certain kinds of occupation require certain kinds of food; that growth in intelligence is marked by a corresponding attention to this law, a recognition of which runs like a tiny thread through the history of savage peoples and finds a partial expression in the belief of the North American Indian who eats the heart of an enemy that the bravery of his murdered foe may be imparted to him.

A few of the mothers (vegetarians) spoke of the advantages of an exclusively vegetable diet, stating that grain contained all the nutritive qualities of meat, quoting the ox and the elephant in support of their theory; the opposing faction stated in denial, that, as one pound of pork yields about as much nutriment as ten pounds of corn, man would need not only the appetite but also the stomach of an ox to thrive on this restricted regimen; also, that we never eat the flesh of carnivora, but merely that of grain or grass-eating animals, meat is, therefore, merely vegetable matter in condensed form—objection, are fish carnivora?

The fondness shown by epileptics for meat. The tendency of children to imitate them—ought they to be allowed in school?

A general plea for greater use of fruits, milk, and vegetables was made at every meeting in which the subject of foods was discussed,

and I wish it were possible to note in this article the many suggestions given in reference to this topic, at each gathering.

Below is given, in brief, the outline considered during the last half of the year; our largest attendance was reached in the months of January, February and March, when from eighty to one hundred persons were present at the discussions.

February 25. *Children's Lies;* can little children always distinguish between reality and imagination? Can older people? Why?

March 24. *Purity;* responsibility of parents and teachers; purity in conversation at home, etc.

April 28. *The subject of foods concluded;* spices and condiments, uses and abuses; sudden changes in diet.

May 26. *How we teach children to be selfish;* reasons why this generation will be particularly so.

June 16. *What shall we do for our children in vacation?* Plans for their welfare. Selection of topics for next year.

A few of these selected topics are given, as follows, to indicate the general trend of thought:

1. Obedience; government of children.
2. Ought boys to work while attending school?
3. Ought children to drink tea or coffee; does either retard growth?
4. Are people of limited means more foolish in their expenditures than wealthier people of the same mental capacity?
5. How and when should girls be taught to sew?
6. How can we teach girls to dress more plainly at school?
7. How can children learn to be more thorough, thoughtful, independent?
8. How can children be taught to be less selfish, more useful?
9. How can greater respect for parents be inculcated?
10. How many children learn contentment? To feel satisfied with home and its surroundings?
11. Should parents choose an occupation for children while yet they are young?
12. Children's dishonesties. Appropriation of missionary money or other public funds, even with intention of replacing it; use of cancelled stamps. Responsibility of public trusts.
13. Please recommend or select a course of reading for children from fourteen to fifteen years of age.

Of the above questions, numbers 1-2-6-7 received the greatest number of votes; among other subjects for next year's discussion are—

1. Necessity for more sleep.
2. Benefits arising from going barefoot.
3. Danger of sitting on stone steps.
4. Cold water as an aid to digestion.
5. Necessity of laughter and cheerful conversation at meals.
6. Bathing; clothing; care of the eye, ear, teeth, nails, hair, etc.

The possibilities for usefulness in this line of work grow daily, and the teacher is made to feel her own limitations by such questions and requests as—

"How can my girl grow stronger?"

"What can I do to interest my boy?"

"Please name some book that will help me."

As an answer to the last need, the nucleus of a small circulating library has been formed which, it is hoped, will add considerably to our helpfulness.

The results of these meetings as observed up to date, are—

1. Children are much better clad, and the provision of rubbers,

umbrellas, and other protection against inclement weather has improved about thirty per cent.

2. An ever growing gentleness on the part of the children, and a gradual disappearance of the stiff, formal relation of pupil and teacher.

3. An awakening on the part of the parents to the fact that maternal instinct does not bestow the knowledge needed in the training of children, and that the sacred office of motherhood calls for the same careful preparation as is accorded other vocations.

4. A consequent appreciation of and sympathy with the teacher's difficulties.

LITERATURE.

FRIEDRICH WILHELM DÖRPFELD. *Aus seinem Leben und Wirken.* Von seiner Tochter Anna Carnap, geb. Dörpfeld. pp. 664, Gütersloh, 1897. *Gesammelte Schriften von Friedrich Wilhelm Dörpfeld.* 12 Bde. Gütersloh, C. Bertelsmann, 1894–1897.

The life of Dörpfeld by his daughter Anna is characterized by great simplicity, unaffected plainness, a fullness of details that leads occasionally to considerable diffuseness, and a strong filial love that dwells on the homely, plain, but fundamental virtues, the domestic simplicity of the quiet German home in Rhenish Prussia, and the self-sacrifice and intense devotion to an ideal that made Dörpfeld a unique "teacher of teachers" in the classic land of pedagogy. The book is largely autobiographical, being to a very great extent extracts from personal letters and addresses. The daughter was, for the last forty-two years of her father's life, his almost constant companion, his pupil at school, his favorite at home, and later his assistant teacher; as she grew up, being the eldest of the children, she came still more into a share of his life. When Frau Dörpfeld died, in 1870, the daughter became her father's nearest friend and constant companion, sharing his labors, his joys and sorrows, entering into his ideals and sympathizing with him in all his aims. This closeness of insight into his inner life and intimacy with his daily thought has given a peculiar charm to the biography.

Dörpfeld came of a stock that loved independence of thought. His grandfather's literary club assembled the weavers, blacksmiths, farmers and wheelwrights of the neighborhood to discuss mathematical problems, theorize and argue on religious and scientific matters, read and speculate in philosophy, study Kant and Krug and Elzipon, read the German classics, or find consolation in Tersteegen's mysticism. The boy grew up in such an atmosphere and looked with pity on those young people who have a philosophical system presented to them ready to their hand in the lecture room, where they passively absorb it. Such come into their inheritance too cheaply and later betray this cheapness in their lack of independence of thought.

When only twenty years old, Dörpfeld resolved to make it his life-work "to strive to become ever more completely (1) a Christian teacher, (2) a Common-School teacher, and (3) a contented common school teacher." He kept this as his aim throughout life, never seeking preferment, but trying to be an example to all his fellow-teachers, by devotion to his professional duties, contentment with his surroundings, and constant struggle to assist others in their professional preparation. In this way he developed a system of lectures and conferences with the teachers of Rhenish Prussia nearly as extensive in its range and greater in its influence than the courses offered by any professor of pedagogy at the universities. He was the "father of the Bible Conferences," which he maintained for nearly forty years; he founded and sustained for thirty years the teachers' conference in Barmen, the members of which called him affectionately "Father Dörpfeld;" for a number of years he delivered additional courses of lectures on psychology in Barmen, Lennep, and Düsseldorf; at Ronsdorf, in his later years, he led a conference in genetic method in religious instruction and ethics; and the great Union

of Teachers and Friends of Education in Rhineland and Westphalia, with its 500 members, was mainly his creation and worked under his guidance.

When Dörpfeld was made a member of the School Conference in 1872, it was the first time that the higher school authorities had deigned to recognize the need of consulting the views of any of the grade teachers. There in the midst of the Prussian School Department at Berlin, he poured out a stream of original ideas that he had been evolving in the quiet of his Rhenish home for a quarter of a century. Many of these were incorporated as essential features in "*die* Allgemeinen Bestimmungen" that followed. Dörpfeld's "*Grundlinien einer Theorie des Lehrplans*" grew directly out of the discussions at Berlin, and explained in greater fullness his views on the subject of the curriculum. The Cultus-Minister Falk acknowledged his services, decorated him with an order, and raised him to the rank of Rector.

He had long been suffering with asthma and at times was compelled to give up his work. In 1879, owing to the state of his health, he was compelled to ask to be retired from regular school duties, and from that time on he devoted himself to his school journal (Evangelisches Schulblatt) and his many conferences. He died October 27, 1893.

His Collected Works embrace pedagogical psychology (2 vol.), special didactics (3 vol.), addresses (1 vol.), school organization (3 vol.), ethics (1 vol.), and miscellaneous (2 vol.). The first of these includes "*Denken und Gedächtnis*," which has been translated into Dutch, Hungarian and English. It is, in fact, the only one of Dörpfeld's writings that is accessible to the English reader. Most of what he wrote is intensely local in its color and laboriously thorough in its clearness. To be made easy of use, his writings need to be re-edited in greatly abridged form.

Dörpfeld preferred to call himself a follower of Comenius and entered with the keenest zest into the plans for that great teacher's recognition through the celebration of his 300 anniversary in 1892. But from early youth he had been attracted by Herbartian pedagogy and became a stanch though independent follower without branching off into the refinements of methodology elaborated by Ziller and his disciples. Thus all that Dörpfeld stood for is characterized by the utmost simplicity. "The Formal Steps" are by him reduced to the three parts of the neuro-muscular arc and lose all artificiality: I *Sense Perception* (receptive), II *Thought* (central process, long circuited), III *Practical Application* (executive action). In the arrangement of the curriculum, he made the central point the demand that "the Content Studies, and not the Language nor the Form Studies, must be the didactic basis of the entire instruction." He opposed Ziller's Concentration idea and pleaded for *all the content studies* in due prominence, but in particular for science lessons. These, he says, form the most fruitful basis for language work, especially because in them the pupil learns to express himself clearly, definitely and concisely. All books are reading books and as such would be better classified according to *style* than according to *matter*. "Practice reading" and "pedantic thoroughness" train away from love of reading and right methods of rapid reading with alertness of mind and interest.

Dörpfeld seems, strangely enough, to have given but little attention to that other bulwark of Herbartian pedagogy, the correspondence of individual and race development. In ethics, to which he devoted great attention, he missed almost entirely the genetic standpoint. The feelings are merely attendant phenomena, disturbing clear thought and deserving only to be repressed. He does, indeed, show in a very clear light how doubt is faith in its birth throes, and that before doubts have

arisen in the little child's mind, the latter is incapable of faith and belief, but that what we call childish confidence is, subjectively considered, to be classed as supposed knowledge and not as belief at all. From this standpoint he shows the need of rationalistic teaching and the immoral tendency toward disbelief that results from teaching on authority. Just as Socrates taught that virtue is founded on knowledge and that the ignorant man cannot be virtuous, so Dörpfeld here teaches that belief is founded on knowledge and that the ignorant man cannot be a firm believer. He plants himself squarely on the same ground as that on which Vilmar stands in his work entitled "*Die Theologie der Thatsachen und die Theologie der Rhetorik*," and accordingly demands, from this point of view, vastly greater earnestness in and attention to the *continuous revelation of God in nature*. This is the basis and starting point of rational ethics, and, in particular, is of fundamental importance for the religious instruction of children. Oneness with nature is the first naïve standpoint, and the dualism of God and nature has only bred irreligiousness.

Perhaps the most characteristically Dörpfeldian of all his writings are those on the family as a basis of school organization. The work, of which Diesterweg said, "Let no one henceforth speak on this subject who has not read this book," is Dörpfeld's "*Die Freie Schulgemeinde und ihre Anstalten auf dem Boden der freien Kirche im freien Staate.*" The announcement in 1892–3 that the school-communities throughout Prussia were to be abolished filled Dörpfeld and many other friends of these institutions with dismay and he was persuaded to write a further plea in their defence. This is his "*Schwanengesang*" under the title "*Das Fundamentstück*," and was received from the printer only a few days before he died. The school is most intimately and closely related he says, not to the church, not to the State, nor to the social-political bodies and municipalities, but to the family. The family is the parent institution of all of these. The school grew out of the family when culture became too extensive and technical to be mediated without special training and teachers. Then it became pedantic in proportion as it lost the atmosphere of home life. In the home education, physical and spiritual, temporal and sacred, lower and higher ways and means are so intimately mingled and interwoven that neither hinders the other, but each reinforces the other. The child's whole being is embraced within the little universe of home. Unpractical and forced theories of education originate in the school-room, or the professor's study, but not in the nursery at home where there are children to put them to the test. The wild exaggerations of Locke and Rousseau were reduced to reason and practical application by Pestalozzi. It was in his own home life in training Jacobli that "Father Pestalozzi" himself learned "how Gertrude teaches her children." The home is the place in which the preacher best learns to preach, the teacher to teach, the educator to develop, the ruler to control and train, the historian to relate the story of the past and the musician to tune the soul with genuine, holy, wholesome music.

Dörpfeld's plan of school organization to preserve this precious home influence was very nearly in realization in the section of Rhenish Prussia about Elberfeld-Barmen, and bears a strong likeness, I am told, to the old New England District School Committee system. The school community, in Dörpfeld's organization, is a separate corporative union of families, based on the rights of parents and organized for the purpose of educating their children. It is different from the church organization or parish, and by no means coincides with the municipal or political district. It is purely a SCHOOL *community*, choosing the head teacher through its electoral board, exercising control by

the school board, under the presidency of the local pastor, and contributing to the support of the schools by fees and gifts from the associated families.

The home is the only participant in school matters that has a full, all-sided interest in the school, and for this reason the others, church, State and municipality or political community, should never be allowed to usurp chief control. Pedagogy will never come to its full recognition and adequate representation until that constituency that is directly responsible for the whole child's development and welfare directly shares in the management and administration of the schools. When the State entirely supports the schools and makes them free, with force text-books, free stationery, and free dispensary, the parents lose their feeling of responsibility and the instinct to care for their young is weakened. They come to feel that the State is responsible for the education of the children. The interest in the school is weakened and the rights of the home are neglected.

Hence, too, the ungraded school under the single teacher comes the nearest to the ideal, because it is the nearest to being a unit such as the family is. The larger the school, and the greater the number of classes, the more it departs from the family type and becomes a pedagogical factory. In such a factory the Jesuit maxims of rivalry and emulation find their place, but the pupils never learn there what co-operation and division of labor mean, because they are classified so that all those together will be of the same presumed attainments and will be working to secure exactly the same results. To substitute for this competitive spirit the co-operative spirit, Prof. Dewey too, in Chicago, demands the departure from the present graded system, in order to bring together children of different ages, temperaments, native abilities and attainments, and thus give the school a community of spirit and an end to be realized through diversity of powers and acts. For the same reasons Dörpfeld always remained loyal to the ungraded school, always opposing, even in large cities, schools of more than three, or at most four grades.

The plan contemplates regularly organized deliberative bodies corresponding to the successive grades of executive authority:

1. *The Local School Community* with its school board and school representatives.
2. *The Commune* with its school deputies.
3. *The District* with its school synod.
4. *The Province or County* with its county assembly.
5. *The State Department* with its State school synod.

Beside this official participation in school administration, parents' meetings must be held, the members of the school board, assemblies, and synods must come together, not to discuss official matters and technical points, but to develop the school consciousness, to gain a view of the range and depth of educational affairs and to extend public interest in them. And lastly, the public press must be enlisted in the same direction.

Dörpfeld was an ardent advocate of elementary social science in the common school, and among his most extensively used school books were the little "Repetitoriums," covering, in addition to the whole range of the natural sciences, the rudiments of psychology, government, army, the courts, minings, manufacture, transportation, and dissemination of news, commerce, church, school, public hygiene, social and political communities, unions and associations, and many other topics not usually included in any course of study.

HERMAN T. LUKENS.

Die deutsche höhere Schule. ARNOLD OHLERT. Hanover, 1896. pp. 344.

The author starts from the oft quoted statement of the present Emperor that the German gymnasium should be placed on a more national basis, and should turn out Germans and not young Greeks or Romans. National science and German literature and history should be the basis of an education that can be called modern. Ancient languages for young children are a barbarity. The book is a detailed description of the culture material that should be included, grade by grade, and subject by subject, with copious references to text books, in a radically modern gymnasium such as he postulates but which nowhere exists to-day.

L'Education dans L'Université, par HENRI MARION. Paris, 1896. pp. 395.

This is a clear digest of organization, degrees, administration, discipline, reforms, methods, etc., of the French Lycées.

L'Education Populaire des Adultes en Angleterre. Paris, 1896. pp. 300.

This is a description, by various members of a commission for the purpose, of evening courses, university settlements and extensions, technical institutions, libraries, etc., chiefly in England, but partly also in this country, with a preface by F. Buisson.

Volkshochschulen und Universitäts-Ausdehnungs-Bewegnug. ERNST SCHULTZE. Leipzig, 1897. pp. 119.

If social danger lies not so much in disparity of wealth as in that of knowledge, university extension is a great and needed movement of social amelioration. The extension movement is described, country by country, with copious literary references.

The Open Church is a new illustrated quarterly devoted to applied Christianity, and edited by E. B. SANFORD, 150 Fifth Ave., N. Y. City. Church gymnasium, parlors, kitchen, reading rooms, sewing schools, helpers, endowments, new methods of prayer meeting and funerals, auxiliary organizations, Chinese missions, and how the church can improve the condition of the masses, Dorcas clubs, church kindergartens, are the leading topics of this first interesting number. Many new pedagogical devices are represented, as imaginary tours round the world, boy brigades and girl guilds, dispensaries, baths and swimming pools, university extension, insurance clubs, employment bureaus, wood-yards and evening classes.

At the proper point in one funeral method the body sinks by invisible machinery in front of the pulpit to a grave, and thence goes to a church vault, whence it can be buried at any time the family may elect. This plan makes for economy and health.

Die Psychologie in der Religionswissenschaft. DR. EMIL KOCH. 1896. pp. 146.

"Nothing has so enslaved psychology as religion, theology and the metaphysics it engendered which made psychology formal and subjective." Faith, the infinite, transcendent, sublime, myth, worth, etc., are proper psychological themes. The author has a very limited idea of what psychology means, and what it can, and we believe will, soon do for the religious consciousness.

Religion in Boyhood. ERNEST B. LAVARD. 1896. pp. 91.

This is a series of hints on the religious training of boys. Character is formed by admiring noble deeds, especially those of Christ. Pun-

ishment should be consistent and fit the offence. Prayer, church going and generosity should be inculcated as the chief early virtues. The book is feeble and written with almost no knowledge of the nature of youth. Sunday observance and belief in the Bible are not quite the *summum bonum* but nearly so.

Jahn als Erzieher, von I. FRIEDRICH. 1895. pp. 192.

We have long needed a brief statement of the leading facts and motives in Jahn's life, and the ideas and methods of his teaching, by some one who had carefully digested all the copious literature on the subject, and has pedagogic instincts and experiences,—and here it is. The most striking thing about this great patriot and teacher is the breadth and depth of his idea, which, to our thinking, are richer than all novel methods.

Comenius und Pestalozzi als Begründer der Volkesschule, von DR. HOFFMEISTER. Leipzig, 1896. pp. 97.

This is a clear and admirable digest of the educational views of these two educational pioneers. It is scholarly, with copious notes and citations.

Die pädagogischen Anschanungen des Erasmus. DR. HERMANN TÖGEL. Dresden, 1896. pp. 130.

This is a very scholarly digest, from all the sources, reference to which erowd the foot notes, of the views and work of this great genius in pedagogy whose star seems again in the ascendant. It is somewhat disheartening to see how many of the best modern things he has anticipated. Interest, apperception, child study, culture stages, object lessons, will training, etc., are all here.

Offentlicher Kinderschutz. DR. H. NEUMANN. 1896. pp. 687.

The last part of this comprehensive treatise on public institutions for the protection of children is now out. It treats of child mortality, childbirth, nurses, preventive medicine, the chief juvenile diseases punishment and houses of detention, orphans' aid societies and schools. It is a very comprehensive work, with copious literary references for each topic.

L'Hygiène Scolaire. Par les docteurs LABÏT et H. PALIN.

I. Le Milieu Scolaire. Paris, 1896. pp. 310.
II. Les Maladies Scolaire. Paris, 1896. pp. 411.

The entire power of education which a republic needs requires special attention to school buildings, privies, furniture, books, writing, ventilation, lighting, and to diseases like school myopia, rickets, examination, food and dress, vaccination, etc., and each of these themes is concisely and clearly presented, so that these trim little volumes are for parents as well as teachers.

Eyesight and School Life. SIMEON SNELL, F. R. C. S., Ed. Bristol and London, 1895. pp. 70.

This expanded lecture covers all the ground of the chief eye diseases and the relation of eye defects to reading, writing, needle work, physical exercise, etc., and is as comprehensive, all in all, as anything known to the writer in this field. The superiority of vertical script is shown by a number of interesting photographs.

Le Pain et la Panification. LEON BOUTRAUX, 1897. pp. 358.

This is a biology-chemistry, and, in a word, a philosophy of bread and bread-making.

How to Feed Children. LOUISE E. HOGAN, 1896. pp. 236.

School life is the most important stage as regards adequate nutrition. The dietary should be abundant and variegated. The book is a valuable and practical compilation.

Bourneville, Assistaine, Traitement et Education des Enfants Idiots et Dégénérés. 1895. pp. 246.

This report to the Natural Congress at Lyons, in 1894, is most interesting on the pedagogic side, because of the many new mechanical devices depicted in the last chapter. The survey is international, and shows marked progress in methods of educating idiots, and still more in hospitalization and care.

Illustrated Manual of Hand and Eye Training. DR. WOLDEMAR GOETZE. London. pp. 229.

Manual training is not premature apprenticeship, but an important way of training not only hand and eye, but the taste, will and nerve as well. Card, wood, metal and clay work are described in detail, with many new cuts, and a copious literature is appended.

Les Maladies de la Mémoire. DR. ALBERT GUILLON, 1897. pp. 254.

This is essentially a treatise on hypermnesia. The partial and general hypertrophy of memory is first described, and then follow descriptions of its special varieties as the sense of having already experienced something really new, sleep and second states, vesanic and toxic hypermnesia. The bibliography is copious and extends from 1778 to the present. The hyperactivity in drowning is due to its great stimulus of cutaneous reflexes, rapid blood circulation in the brain and so vivid memory. Traumatic hyperaction is due to a stimulus, which, if limited to the motor zone, causes Jacksonian epilepsy, but in the purely intellectual fibres causes excess of function there. If attention rests as in sleep, forgotten souvenirs revive. Great rapidity of thought is a stimulus that calls up reserve tracts. Anæmia and congestion both seem to do it. Hypertrophy of this function is like small trees bearing big fruit. People may be "mad" from too much memory. Imagination is not memory. Here memory is the basis of personality, in the next world of immortality. Fixation is active, passive, and both may be exalted. Loss of a sense reverses the images.

Questions D'Education et D'Enseignement, par M. DAUZAT. Paris. pp. 177.

This is a set of papers by an academic inspector on programmes, moral training, ancient history, mnemonics, perspective, mutuality, object lessons, etc.

Children's Stories in American Literature. HENRIETTA CHRISTIAN WRIGHT. 1896. pp. 277.

The boyhood of George Wm. Curtis, R. H. Stoddard, E. Eggleston, Warner, Stedman, Bret Harte, Taylor, Howells, F. H. Burnett, Alcott, Aldrich, Cable, Fiske and Mark Twain are very attractively described.

Hindu Castes and Sects. JOGENDRA NATH BHATTACHARYA, M. A., D. L., 1896. pp. 623.

This is a fascinating book by a learned native, giving many facts never before published, and about equally devoted to castes and sects and with 70 pages of glossary. Religion is a product of human policy and theoretic art. The author has no high opinion of any priests or religion. They have had very little to do with morality in the world.

Both the author's characterization of the origins of sects and his generalization about religions and their founders, are full of fresh suggestions.

La Synergie Sociale. HENRI MAZEL. Paris, 1896. pp. 356.

Social synergy has three aspects—past, present and future, to each of which one part of the work is devoted. The outlook is good. Great thinkers work together, although they may not know it. Anarchy is individual, but collectivism will eradicate it.

The Facts of Life. V. BETIS and HORACE SWAN. New York, 1896. pp. 115.

This is a very suggestive and interesting method of learning French, derived from that of Gouin, but with important changes. The topics are home, school, travel, plants, animals, towns, society, industry, government, mental and emotional life. It is a dictionary of the facts of life, with no word of English or of German, or hint as to pronunciation or vocabulary. There is need of a teacher to go with the book. Teaching must be oral, and is based on the facts that language roots in things and acts.

NOTES.

In an interesting address last Fall, at the opening of his courses at the University of Turin, Prof. Vailati urged the importance of more attention to the history of science. Not only should the head of every special department of science teach at least briefly the story of the development of his department, but in lower schools a summary treatment of this field is of great pedagogic and even moral value.

For many years Dr. Walter Channing, of Brookline, has studied the palatal deformities of idiots, and in the *Journal of Mental Science*, January, 1897, describes his method of taking the casts of their mouths; and gives his conclusion, based on about 1,000 cases. Two-fifths of the palates are fairly well shaped. There is no type peculiar to idiocy, and it is yet to be proved that the V shaped palate is a stigma of degeneracy.

In his Kontrolle-Tafel for parents, J. Esser prints a convenient register for recording weight, girth, length and strength of arm, lung capacity and strength for each child, with directions, so that any teacher can make good measurements.

Dr. Schmid Monnard, in his observations on the bodily and hygienic development of school children, shows that girls have less power to resist disease than boys, their per cent. of illness being sometimes twice as great. Those living in good circumstances are more often ill than the girls from poor families. Country children are less often ill than those from the city. Sickness decreases from the sixth to the thirteenth year. In new school buildings less are ill than in old ones. These studies proved clearly that military services improved the bodily vigor of the next generation, and that physical vigor declines under the influence of school. During the year of entering school there is less growth in both height and weight than at any period of childhood. From 6 to 10 when there is least power of growth there is the worry and confinement of school. The body grows lighter by night and also on a warm day. From August to October growth is most and from February to June least. In Fall, too, there is least illness and the least excretion of nitrogen. The 7th and 9th year is lowest growth and the first year most.

M. Schereschewsky's thesis on stammering, with special reference to the throat, is a German dissertation of unusual merit, based on a study of 75 cases, and with copious literature and brief history of the topic. The causes in order of frequence, were: a fall, imitation, fright, scarlet fever, a blow on the head. Many were weak and more than half had under development or malformation of throat or palate.

Director B. Hanschman, in his 52 page German pamphlet on the pedagogical tendencies of the closing century, gives a good summary of the views of Pestalozzi, Fröbel and Ziller.

Dr. A. Grabow, in his recent German pamphlet entitled Vertical or Oblique Scripts, urges with great detail of direction how to write at an inclination of 58 degrees, which he thinks a compromise between the vertical and ultra oblique methods.

Rector Chn. Ufer reprints in a pamplet of 56 pages Nedermann's observation on the development of the powers of the souls of children, with a valuable bibliography of the German and English literature of child study. Although an eclectic rationalist and materialist, in the better sense of the word, Nedermann has the merit of being, in a sense, the original child student, for this paper was written in 1787. It had already been translated into French, Italian and English.

Dr. Julius Lewit, in his *Darstellung der theoretischen und praktischen Pädagogik im judischen Allerthume*, gives us in 79 pages a valuable and scholarly glimpse of the method of education among the ancient Jews, from original Talmudic sources.

Dr. F. Maack, in a German pamphlet on the Wisdom of the World-Force, a Dynamosophy, and C. Goetze's booklet entitled The Sun is Inhabited, illustrate a rank recrudence of animism. The first, assuming that the world is force and idea, argues that consciousness must reside in force, or it could not appear in its higher product — life and man. "For Thine is the kingdom and the power" is the author's motto for his theistic pantheism. Man is only a transitory stage or phase of the world power. Occult forces rule this mystic world and polarization is its most pregnant symbol, and back of all is the one force of which all that is are modes of manifestation.

Goetze reminds us of Herschel's theory that the willow leaved maculations of the sun might be living monsters in the sun of which we are children, and as we live life must be in our source. Indeed we live inside the solar corona. The solar inhabitants are polar. The heat of the sun is an electrical product. The sun has rings and its center is colder and older. Contemporary science, proud as it is, is all wrong.

It was a good idea to print in a separate 54 page volume Dr. Noble's history of German schools from Rein's handbook and it would be well if it were translated into English. It is the best condensation of the subject that exists; includes universities and has a judicious list of all leading authorities.